

THREATS OF MARITIME TERRORISM IN INDIAN OCEAN : LESSONS LEARNT FROM GULF OF ADEN CASE STUDY

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ABSTRACT

Maritime terrorism poses a significant threat in the Indian Ocean region (IOR), with Gulf of Aden amongst prominent hotbeds. The multifaceted challenges presented by maritime terrorism and various response options to address the growing security concerns have been evaluated within the larger context of Maritime Terrorism. The paper delves into the efforts made by littoral governments, blue water navies with regional cum international organizations to counter this menace of terrorism and undertake substantial safeguards. The importance of collaborative approach, collated intelligence sharing and due focus on capacity building measures needed to combat maritime threats in IOR have been recurrently talked about. Through an in-depth analysis of the "Gulf of Aden" as a case study, valuable insights for policymakers and stakeholders in formulating effective white-paper to strategize mitigation of posed risks in the region have been suggested. The paper unfolds arguments of the littoral nations of the region jostling in a geo-political struggle for power and economy. It concludes with regional strategic policy consultations inclusive of traditional and non-traditional maritime concerns, which can act as an impetus for betterment of inter-regional relations by offering safe Sea Lines of Communications (SLOCs).

Keywords: Maritime Terrorism, Indian Ocean Region, Gulf of Aden, Non-Traditional Maritime Threats, Strategic Maritime Policies, Littoral States, Sea Lines of Communication.

INTRODUCTION

"A ship in port is safe, but that's not what ships are built for" – Grace Hopper

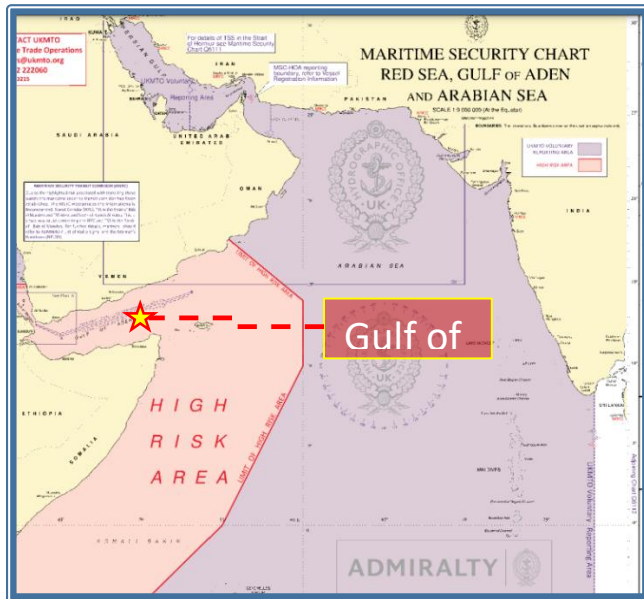
Maritime Terrorism is a centuries old phenomenon. Erecting boundary walls in maritime has inbuilt complications vis a vis legality issues which when not addressed give rise to terrorism. Terrorism in IOR with Gulf of Aden under lime-light poses significant threats to the security and stability of the region. In yesteryears, Aden's gulf has transitioned to become a hotbed for maritime terrorism struck countries fueling fire to the issues of piracy, armed robberies and other criminal activities in the region.¹ These acts not only endanger the lives of seafarers and the security of commercial vessels but also disrupt whole economic chain reaction canvas that treads upon global trade routes.

The assimilation of the issue at grass root level lies in comprehension of the underlying causes of maritime terrorism in the Indian Ocean which range from political instability, weak governance, economic disparities to regional conflicts and proxy terrorism. In retrospect, the ever-evolving tactics and strategies employed by terrorist groups or criminal networks demand comprehensive yet innovative approaches to overcome these threats effectively. Addressing the problem requires a multidimensional analysis of the factors contributing to maritime terrorism which primarily lies in the socio-politico-economic and regional dynamics. It is also essential to identify the key vulnerabilities in the maritime domain and develop robust counterterrorism strategies, focusing on intelligence sharing, law enforcement cooperation, capacity building means

¹ Olapoju, Olabisi Michael. "Autonomous ships, port operations, and the challenges of African

ports." *Maritime Technology and Research* 5, no. 1 (2023): 260194-260194.

and maritime security infrastructure enhancement. On the other side of coin, effective response must encompass the involvement of various stakeholders viz International organizations, regional alliances, naval forces, private sector entities and local community demands. Coordinated efforts and collaboration among these stakeholders are vital to



establish a secure and omni-stable maritime environment, deter terrorist activities and safeguard the freedom of navigation in the Indian Ocean.

The significance of studying maritime terrorism in IOR, with specific focus on Aden's Gulf, lays focus in its critical implication for regional security and global economic stability. IOR is a vital maritime corridor for international trade and energy transportation, yet any disruption caused by terrorist activities in the Gulf of Aden can have far-reaching consequences. Understanding the evolving threats posed by terrorist groups in this region, it is essential for formulating effective counter-terrorism strategies.

The case study of Gulf of Aden allows a detailed examination of the complex dynamics of maritime terrorism in the region. The findings from this specific context can serve as a valuable model for understanding same sort security paradigm

challenges in other littoral areas of the IOR. The research also highlights the importance of building resilient security frameworks, strengthen collated intelligence sharing vis a vis promoting regional cooperation to effectively combat maritime terrorism. Furthermore, by identifying the key factors contributing to the vulnerability of the region, the research paper offers insight that can be termed effective to address root causes and find out social, economic cum political drivers. Overall, the study's significance lies in its potential to extract evidence based policy-making, bolster regional security collaboration and contribute to the global efforts to counter maritime terrorism with regional stability in the region as a supplemental dividend.

Importance of Indian Ocean Region

Indian Ocean is a region of geo-strategical importance². It continues to exist at the helm of power politics arena of global importance owing to its vital Sea Lines of Communications. For all littoral, co-located and foreign nations desirous of using the region to retain their strategic rating in global power game, Indian Ocean has been used in the past and will continue to act as "strategic backwaters"³. However, in the process of interstate rivalry vis a vis global power tactics certain crucial maritime security concerns visible on the canvas, beyond the traditional military threats are also overlooked. History bears witness to the fact that the IOR is highly susceptible to piracy, smuggling, trafficking, armed robbery and likewise other illicit activities owing to amalgamation of multiple factors which if not are resultant derivatives, have ballpark linkage to political instability, economic disparity, weak governance to inadequate maritime security measures and lastly the survival tact. Multiple studies have revealed that the tactics and strategies employed by terrorist groups operating in the Gulf of Aden emphasize on using sea as a platform for attacks such as arms smuggling, human cum drug trafficking and narcotics trade revealing an intricate web of criminal networks operating in the region.

With the upcoming Climate Change concerns certain dogmas often collectively termed as "Non-

² Shabbir, Muhammad Omer, Rabia Bashir, and Sara Saleem. "Geo-Strategic importance of Indian Ocean: clash of interests between China and India." *Journal of Indian Studies* 5, no. 01 (2019): 47-60.

³ Scott, David. *The Indian Ocean as India's Ocean*. Oxford University Press, 2015.

*Traditional Maritime Security Threats*⁴ are also on the sale. These threats, such as waxing sea levels, acidification of sea waters, unregulated fishing and deposition of human waste are all not only environmental threats but continue to contribute towards security threats as well. The “turn-down effect” is compounding at a high rate with every passing day and the greater level of negligence has the potential of turning marine’s future into a catastrophe. This pandora box to few may only affect the political economy of Indian Ocean littoral states but in actual it is bound to shake global economy as well. This essentially is because Indian Ocean continues to cater as the artery of global trade, as more than 80% of global energy trade⁵ is bound to pass through this region.

Aspects of Maritime Terrorism

Now, after wholesome view of maritime threats is assimilated, a list of issues that have the potential to threaten our maritime zones in general and Indian Ocean in particular need to be re-evaluated. These issues range from unauthorized fishing in someone else’s water to hijacking for ransom to destroying international vessels or blocking global sea lines of communications under some plea. A list of probable such issues are depicted in the figure below: After the opportunities / acts that can be made use of in a particular region are discussed, we need to analyze another aspect usually neglected but of utmost importance is of “*usage of ship*” that is, how the vessel, tinned dweller of open seas can be effectively utilized to create havoc of subnational, regional or international attention. The terrorist usage of vessels can be jotted down in following ways:

- **Vessel as a Weapon.** In an unwelcoming situation, a vessel has the potential to be used for “*ramming or colliding*” it with another vessel, with an intent to cause significant damage to the larger targeted ship or even sink a smaller one. Such an act could be easily carried out during a

piracy attempt with least of the training or qualified crew men onboard. This type of attack was employed with complete victory off the Yemeni coast in Gulf of Aden by Al Qaeda proponents, on the “*USS Cole and MV Limburg*” ships.⁶

- **Vessel as a Choker.** The frequent usage of seafarers in an attempt to gain international fame is to block choke points on SLOCs. This could and has involved sinking a large vessel in any trade-making strait such as Strait of Hormuz or Malacca Straits, thus blocking all traffic. Initially, an attack of such nature may cause a major traffic jam at its narrowest point. However, multiple ship wrecks or collision at a single point could resultantly block the lane for multiple days incurring massive economical loss. In March 2021, Suez Canal was blocked for 6 days⁷ when a “*Container ship - Ever Given*” went aground at the choke point within the canal.



- **Vessel as an IED.** In a terrifying scenario a vessel could be utilized as an explosive device not only harming the crew but substantially damaging any other ship in close proximity. The ease of utilization is detonation of a high-risk load such as liquefied, compressed or like-wise derivative of Natural Gas in harbours or in open waters. Pirates have hijacked large tankers in the past, but the capacity to detonate a tanker’s payload has not been

⁴ Chatterjee, Aditi. "Non-traditional maritime security threats in the Indian Ocean region." *Maritime Affairs: Journal of the National Maritime Foundation of India* 10, no. 2 (2014): 77-95.

⁵ Khurana, Gurpreet S. "China's 'String of Pearls' in the Indian Ocean and its security implications." *Strategic Analysis* 32, no. 1 (2008): 1-39.

⁶ Metaparti, Satya Prakash. "Maritime Security after 9/11: The shipping industry's response to the terrorist threat." *HKU Theses Online (HKUTO)* (2004).

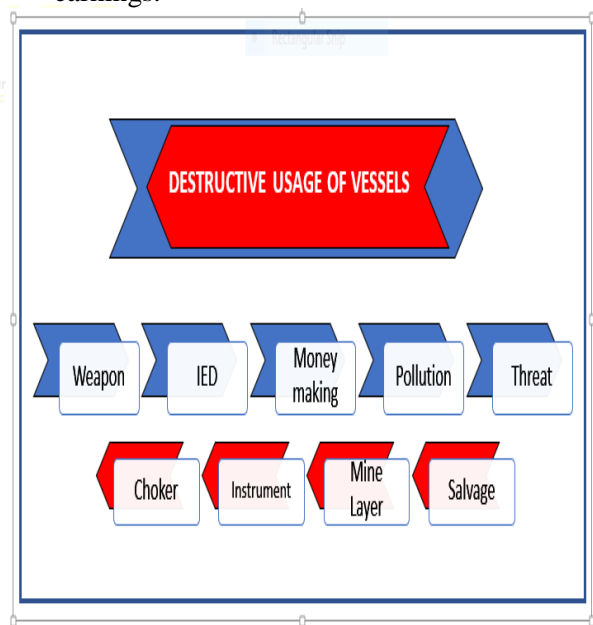
⁷ Fan, Shiqi, Zaili Yang, Jin Wang, and John Marsland. "Shipping accident analysis in restricted waters: Lesson from the Suez Canal blockage in 2021." *Ocean Engineering* 266 (2022): 113119.

demonstrated. Liquefied Natural Gas (LNG) is estimated to be the most potentially dangerous cargo when compared with Compressed Natural Gas (CNG) or likewise versions of natural gas⁸ that could be easily ignited to incur catastrophic fire damage to material and loss of lives to the onboard personnel. *Drone Boats or Water Borne Improvised Explosive Devices (WBIEDs)* have been invented to achieve the same results without inflicting damages to the controlling team.

- **Vessel as an Instrument.** The aspect of proxy war under a false portrayed vessel identity of military vis a vis civilian out-make has the potential to hype up a situation and result in mistaken engagements or at least lead the into a diplomatic or military confrontation. Such incidents can be undertaken by captured / seized vessels under the overall ambit of terrorism. A vessel penetrating into the territorial waters of another sovereign state without proper authorization can be perceived as an act of aggression, leading to deterioration of diplomatic resolute and raising tensions on escalatory ladder amongst both countries. Result of such tragic consequences can erode trust amongst maritime actors and factors.
- **Vessel as a Threat.** An option whereby terrorists or sea farers usually attack passing by vessels or crafts for no particular reason but causing threat of wreckage or hijack is amongst the favourites of the troublesome ones. They infest the congested harbours or shallow depth areas to easily target the passer-by ships. This could also include merely firing of bullets or Rocket Propelled Grenades (RPGs) maintaining a stand-off distance to flee away easily. An attractive feature of the small boat attack, from a terrorist perspective, involves relatively low amount of training and coordination.
- **Vessel as a Mine Layer.** *“Every ship has the potential to be a Mine Detector, for once at-least”*. Unless laden with specific equipment, any ship bound to encounter a mine afloat the open waters is to receive substantial damages depending upon the type, place, type of mine and depth of encounter. This un warranted mining is

an effective strategy for terrorists to quarantine the narrow straits. Such type of claims of having mined a particular strait or a region on one hand is bound to attract massive media and political attention while it will render massive expenditure or damages in the pacification operation risking lives of many. In addition, this could easily cripple the economy of a country when the sea boarders will tend to avoid such harbours in times to come.

- **Vessel as a Money-Making Machine.** This type of act involves usage of vessels to undertake hijacking operations. Holding “crew members” and seeking ransom money or even seize-holding the poor low earner fishermen with an intent to claim monetary rewards have been practiced in the past and have the potential to be exploited to-date as well. These ransom demands are bound to incur significant financial losses to shipping companies. Additionally, it can disrupt trade routes, pose unwarranted insurance burdens vis a vis increased on-board and associated security protocols to minimize the earnings.



- **Vessel as an Environment Polluter.**

⁸ Osorio-Tejada, Jose Luis, Eva Llera-Sastresa, and Sabina Scarpellini. "Liquefied natural gas: Could it

be a reliable option for road freight transport in the EU?." *Renewable and Sustainable Energy Reviews* 71 (2017): 785-795.

Climate Change as an aspect of great value that humans have identified of recent. As versatile the topic is, the same varied are the contributory factors. In maritime, all vessels have the potential to contribute to maritime pollution. This can be easily accomplished via fuel spillage (accidental or purposeful), improper waste disposal, chemical laden ship wreckage or likewise other incidents, posing threats to marine ecosystems and biodiversity. Oil spillage in Gulf of Aden has multiple times been reported in news networks⁹. Many a times, vessels had turned out to be “Ghost vessels” and few had asked for an SOS call after getting caught in a remorseful act. The marine life damage and long-term effect of 50,000 barrels of oil spill-over if not in specifics are not difficult to comprehend in approximation.

- **Vessel as a Salvage Collector.**

Employment of sea vessels to smuggle contraband items, transporting migrants cum refugees and stealing fish vis a vis edible marine life from unauthorized waters can serve to imbalance ecological balance and fish stocks owing to use of destructive fishing methods. Similarly, transporting migrants under exploitable conditions not only effects their life but also negatively impacts the off-shore region with probable spread of disease-struck.

Anatomy of Maritime Security Threats

The paper aims to delve into complex landscape of maritime terrorism in the region and explore effective response strategies. Despite substantial existent literature available on the subject, several critical research gaps remain to be addressed. Amongst them, of importance is a need to chalk out the comprehensive role of regional cooperation within the littoral states’ existent in IOR to combat maritime terrorism in the Aden’s Gulf. Similarly, a need to jot down the factors of influence of socio-economic value that support maritime terrorism requires deeper investigation and analysis. Analyzing this particular linkage between grass root level factors viz poverty, social marginalization, unemployment, per capita resources, over-sized populace and the motivation cum incentivization of

terrorists recruiting a particular national is bound to shed light on the avenues that have the potential to hamper the rising menace of maritime terrorism.

A comprehensive analysis of financial mechanism networking is of paramount importance. This encompasses identifying the sources, charity, donations, funding, money laundering channels and trans-border operations would aid in tailoring measures to disrupt this financial support system. The psychological and societal impact of such terror-struck communities demand due attention. The short, medium- and long-term consequences if analyzed can result in improving the mental health, social cohesion and sub-communal economies of local populace. Further, it can contribute towards the development of effective post-incident support and resilience-building initiatives. Turning the tables, existent legal frameworks and jurisdictional challenges in prosecuting maritime terrorists operating in the Gulf of Aden also necessitate scrutiny. Analyzing these hurdles, glitches hampering cross-border investigations, apprehending suspects and ensuring fair cum free trials can serve to be instrumental in strengthening legal framework in combating maritime terrorism.

Role of international co-operation and partnerships in countering maritime terrorism needs deliberate evaluation. Assimilating the effectiveness of joint military operations, intelligence collating and initiatives in respect of capacity-building led by International Non-Governmental Organizations (INGOs), Non-Governmental Organizations (NGOs), international organizations and foreign governments would provide insights into the significance of global collaboration in combating this transnational threat. Addressing these research gaps is bound to contribute towards an improved understanding of maritime terrorism in the IOR. This measure can facilitate in building robust and coordinated responses to combating maritime security particularly in the Gulf of Aden

Maritime Security through military or private ventures in countering maritime menace requires thorough evaluation and measures development. Understanding the efficacy, legal ramifications, associated challenges with outsourcing of security responsibilities has the

⁹ Vreÿ, Francois. "Bad order at sea: From the Gulf of Aden to the Gulf of Guinea." *African Security Review* 18, no. 3 (2009): 17-30.

possibility of informing policy makers vis a vis stake-holders about their suitability within the overall security canvas. Moreover, countering radical element existent amongst coastal communities in the IOR is also imperative. Deliberating upon the drivers and de-radicalization methods along with their evaluation within the existent programs would aid to formulate targeted strategies to prevent terrorists from such kind of recruitment.

Why Piracy Continues to Dwell at Sea ?

As long as the valuables have been transported by sea, pirates have been around, so is the likelihood of their existence in future. However, the ways, means, circumstances, tactics and other intangibles are bound to change as per the scenario or technological advancement of the existent times. Piracy to-date has evolved from the "Golden Age" into a modern-day phenomenon that is more often than not termed as violent or deadly to the worst scale. Most scholars define "Piracy as a criminal tactic that targets maritime resources, trade or personnel for economic interests (financial gains)".

However, as per the United Nations Convention on the Law of the Sea (UNCLOS) dating back to 1982, Piracy is "Any illegal act of violence, detention, or any act of depredation, committed for private ends ... on the high seas against another ship ... outside the jurisdiction of any state".¹⁰ This jurisdiction of state is the sole motive that the threat is beyond the control of one or two states. It fosters the spirit of combined action of nation states or the politico-economic block of states to stand up against the menace of maritime threats.

Here, it is pertinent to mention that Piracy to date continues to be the omnipotent threat amongst all potent contenders of maritime threats. It encompasses a large scope and history holds witness to it. In regards to Piracy, it can further be subdivided into following five types which probably continue to strike a vessel in some corner of the globe:

- **Hijacking of Vessel.** Vessels afloat the high seas are hijacked for obtainment of cargo or

goods. When the ships are off-loaded and luggage sold, they are falsely reregistered with fake documents for transportation of goods to black market. Of usual, the hijacked vessels serve their lords for illegal trade. This type of working is termed as "Phantom Ship operation"¹¹ and is undertaken by highly skilled and substantially armed pirate groups.

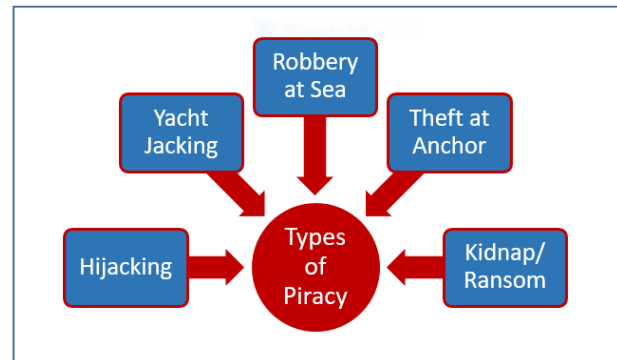


Figure depicts the type of piracy acts existent to-date

- **Yacht Jacking¹².** An attack against a private vessel to obtain cash and marketable goods that can or will be further merchandised. This is probably the most common of all types and often a norm where numerous well stocked yachts sail or are expected to pass by. Historically, the region to experience it recurrently has been the "Carribean Sea" and famous are the "Pirates of the Carribean" even today.
- **Robbery at Sea.** Amongst the high tides of the deep waters, only trained crews can reach in a compatible speed boat to halt and ransack a private vessel. This further involves violence cum blood-shed while the crews are forcefully detained and chained while the resources are exploited against their will.
- **Theft at Anchor or Pier Side.** A common practice often experienced is a low-level type of armed robbery that takes place when the vessels are docked up or moored. Criminals and perpetrators of such sort, armed with weaponry approach the vessel in high speed boat to ransack

¹⁰ Ahmad, Azhar. "Maritime security post-9/11." *Strategic Studies* 29, no. 2/3 (2009): 81-95.

¹¹ Mir, Muzaffar Hussain, Shashi Bhushan Ojha, and Siddharth Kannoja. "The "phantom ship" phenomenon at high sea: issues and challenges of

prosecuting maritime piracy under international and Indian law." (2023).

¹² Ahmad, Azhar. "Maritime security post-9/11: Challenges and response." *Journal of the Institute of Strategic Studies of Islamabad (ISSI)* 29, no. 2 (2009): 87.

high value personal belongings, goods, opportunity cash or whatever they may find.

- **Kidnap or Ransom.** More often than not, the pirates or terrorists board a vessel to conduct a robbery or accumulate material wealth. However, if a situation pops up whereby crew members or guests travelling on board can be kidnapped for ransom, the scenario is bound to be exploited and for safe return of sea fearers a handsome amount is expected to be paid out. However, for such a daunting task, the criminal crew is expected to be well organized and suitably equipped.

Now, as far as the answer of existence of Piracy is concerned, it continues to dwell because of complex interplay of factors. One of the significant reasons is the geographical vulnerability of deep sea and economic deprivation of the linked land dwellers. Weak maritime surveillance cum enforcement means were also once a contributory factor. The transnational nature of piracy is another significant trait. Pirate groups devoid of borders operate trans-frontier accruing advantage of non-existent or weak linkage of regional cooperation and information sharing mechanism amongst the existent littoral countries. This not only makes it difficult for maritime forces to coordinate efforts but lends out a handsome time package for pirates to flee away from prosecution. Today, Socio-economic conditions play a crucial role for piracy to exist. Unemployment, Poverty, meagerly available economic opportunities still continue to push individuals to resort to piracy as a means of survival or to gain easy monetary rewards. Ransom payments from hijacked vessels and kidnapped crew members incentivize criminal groups to engage in piracy as easy to earn money. Technological advancements on one hand have facilitated Law Enforcement Agencies (LEAs) but on the down side have eased out the pirates in making use of this advancement too. Modern pirates have been found wise enough to employ latest gadgetries, state of the art equipment, in addition to updated

tactics such as use of high-speed boats, hi-tech surveillance, jamming and other information technology (IT) means to easily exploit the target. Thus, the advancements undertaken to hamper the pirates task have resultantly made it harder for LEA to ensure timely tackling of maritime terrorism.

Despite all, addressing piracy todate requires a comprehensive and coordinated approach. Neither IT nor remote age tactics alone can save the sea-farers. Strengthening of maritime security, improvement of economic opportunities and enhancing regional cooperation are bound to be helpful in curbing piracy. Tightening of legal framework noose for the prosecution of pirates with in the global maritime ambit, such as intelligence-sharing initiative with or without joint patrols are bound to have due dividends in ensuring safe navigation. Yet, the rider clause will be taking away the advantage of the pirate by making the response tier to go "Border-less". It will add strength to the response mechanism and weaken the pirates in their own act. Thus, only through persistent, active and collective efforts can eliminate piracy and effectively curb their initiatives.

The Easy Money Factor – Drugs & Weapons

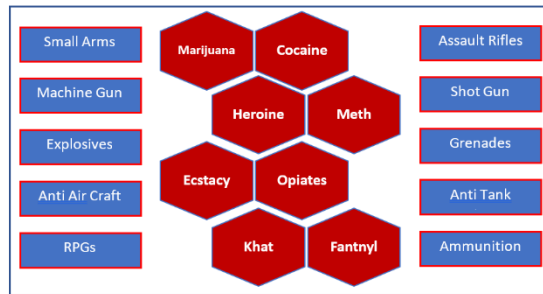
The smuggling of drugs and weapons through the blue water persists to occur owing to the profit margins offered. Amongst all, drug trafficking jostling with Arms smuggling stands out as the most lucrative amongst all to earn quick cash. Profitable nature of the illicit trade-make in drugs and weapons provides a due advantage for criminal organizations and groups to engage into it via the vast sea. The global demand for drugs, continues to pump-create a lucrative market¹³. Same as, the demand for weapons in conflict-ridden region continues to fuel the illegal arms trade. The prospect of substantially high monetary awards motivate smugglers to take significant life-threat risks in transporting these unauthorized goods through maritime routes¹⁴. The vastness of maritime spaces provides smugglers with

¹³ Ávila-Zúñiga-Nordfeld, Adriana, Hans Liwång, and Dimitrios Dalaklis. "Implications of Technological Innovation and Respective Regulations to Strengthen Port and Maritime Security: An International Agenda to Reduce Illegal Drug Traffic and Countering Terrorism at Sea." In *Smart Ports and Robotic Systems: Navigating the Waves of Techno-Regulation and Governance*, pp.

135-147. Cham: Springer International Publishing, 2023.

¹⁴ Belloni, Milena. *The big gamble: The migration of Eritreans to Europe*. University of California Press, 2019.

ample opportunities to scoot away and avoid detection by LEAs. Globally, the oceans cover vast expanses, making it challenging for concerned authorities to monitor every nook and corner effectively¹⁵. The type of arms and narcotics high-demand are depicted in the following figure below:



As per recent estimates, drug trafficking todate offers a profit margin of nearly 100%, making it the most lucrative, easy growing, promising yet thrilling and an unskilled profession that can pay the bills till abrupt end is met. As per as estimate Afghanistan is world's largest provider of drugs with a 93% contributory share on global scale with Heroin, Opium and Morphine¹⁶ with the favourites-in-demand. Weak maritime enforcement and surveillance to few is a contributory factor to this uncontrolled menace. Amongst the smuggling routes, most pronounced and often sailed over, to transport opiates counterfeit as cargo to Yemen, Oman, Kingdom of Saudi Arabia (KSA), United Arab Emirates (UAE) and neighbouring kingdoms is via Arabian Sea in IOR.

Complex nexus, a recent coupling is transformation of illegal drug traders into the ambit of terrorism, termed as "Narco-Terrorism"¹⁷. There have been scholarly arguments that nearly every terrorist group operates today between the drug trade to narco-terrorism zone. Many terrorist organizations such as infamous Al-Qaeda and Liberation Tigers of Tamil Eelam (LTTE) are feared to have utilized drug

trafficking as their primary earning means merely to finance their wide spread spectrum of activities¹⁸. 12 of the 36 groups on the US Department of State's Foreign Terrorist Organizations list have been known to be related with Drug Trafficking via direct or indirect means¹⁹. Al-Qaeda, as per the records, has allegedly benefited to a larger context from the Afghan Heroin sales revenue. Documentary evidence to it occurred on December 30 in year 2003, when U.S. Navy stopped a small suspected fishing boat in the Arabian Sea carrying drugs and several wanted Al-Qaeda suspects. This, vindicated their claim of an unmistakable nexus between the drug cartels and the terrorists of Arabian Sea.

Addressing smuggling of drugs and weapons via deep waters need to be assimilated in entirety with a multifaceted approach. A concerted effort from the international community is necessary to ensure the security of maritime spaces and curtail the illegal trade of drugs and weapons at sea. This can only be possible with strengthened maritime LEAs with enhanced surveillance and intelligence means. Promoting international cooperation to disrupt criminal networks is a crucial step. Tackling root causes of drug demand can contribute in reduction of the smuggling incentives. Adaptability of criminal gangs is also a contributory factor to the persistence of sea smuggling. These border-less networks constantly evolve their tactics, employing latest technology, incorporating encrypted communication means and adapting sophisticated concealment methods to outsmart LEAs.

Technical Gadgets – Role Play in Countering the Threats

Artificial Intelligence (AI) has not only revolutionized our life on land but has bolstered our journey on SLOCs in deep blue waters. The development and subsequent deployment vis a vis utilization of advanced technical gadgets have played a pivotal role in decreasing maritime terrorism in the

¹⁵ Nordstrom, Carolyn. *Global outlaws: Crime, money, and power in the contemporary world*. Vol. 16. Univ of California Press, 2007.

¹⁶ Ward, Christopher, and William A. Byrd. *Afghanistan's opium drug economy*. Washington, DC: World Bank, 2004.

¹⁷ Marshall, Donnie. "Narco-terrorism: the new discovery of an old connection." *Cornell Int'l LJ* 35 (2001): 599.

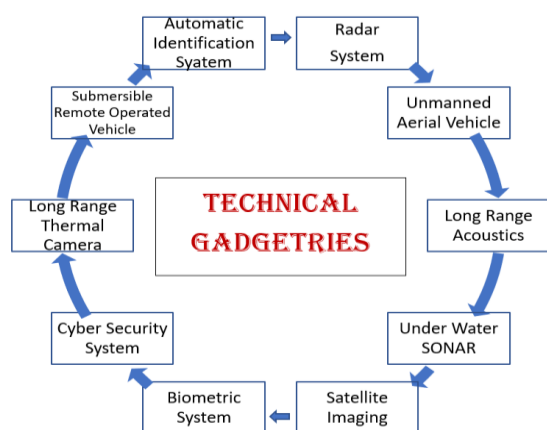
¹⁸ Hettiarachchi, Malkanthi. "Radicalization and de-radicalization: the Tamil Tiger case study." PhD diss., Macquarie University, 2022.

¹⁹ Williams, Heather J., Nathan Chandler, and Eric Robinson. *Trends in the draw of Americans to foreign terrorist organizations from 9/11 to today*. Rand Corporation, 2019.

IOR. The implementation of the *Automatic Identification System (AIS)* has enabled real-time tracking and monitoring of vessel movements²⁰, allowing maritime authorities and LEAs to promptly identify or timely respond to suspicious activities. Furthermore, *Long-Range Thermal Imaging (LRTI)* cameras have provided greater dividends in detecting heat signatures and identifying evading vessels even in challenging low visibility conditions.

The mere thought of a Sea worthy vessel without *Sound Navigation and Ranging (SONAR) System* is beyond comprehension, not today but not even decades ago. *Submersible Remotely Operated Vehicles (ROVs)* equipped with cameras and sensors have enabled underwater inquiry of critical infrastructure or vessel inspection, ensuring the early detection of subsurface potential threats. These technological advancements collectively contribute towards an efficient and a robust maritime security framework. A framework which mitigates the risk of maritime terrorism and fosters safety in IOR.

Continuing further with the technical expertise, *Long-Range Radar Systems (LRRS)* have significantly enhanced surveillance capabilities.



These radars provide comprehensive coverage of maritime areas and offer early warning detection of approaching security threats. Further down the lane, integration of *Unmanned Aerial Vehicles (UAV)* has bolstered aerial surveillance. Maritime Authorities in conjunction with LEAs can now gather critical intelligence, enhanced situational awareness and resultantly can act swiftly to any incident near-make. The use of *Satellite Imaging Technology (SIT)* has

improved maritime domain upkeep, facilitating the live surveillance of vessels with clock precision, tracking of suspicious vessels over long distances, detection and engagement via multiple available means. *Biometric Systems* at ports and coastal areas have enhanced security measures by correctly identifying individuals. These advanced gadgets, coupled with robust *Cybersecurity Systems*, have resultantly fortified critical maritime infrastructure against cyber threats and potential terrorist attacks on information technology (IT) networks. By providing real-time data, strengthening security measures and enhancing situational awareness these technological advances have contributed to waning occurrences of maritime terrorism in the IOR.

Future of Maritime Terrorism in Gulf of Aden

The future of maritime terrorism is moving away from being dark and dirty. Gulf of Aden has been a hotspot for piracy and maritime security challenges for several decades, yet piracy incidents in yesteryears have shown a downward trend. Some pirate groups had collaborated with terrorist organizations to foster mutual benefits in pursuing their ill-wills. Technological advancements have made their reliable place in countering terrorists in IOR in general and Gulf of Aden in particular. The increased interconnectedness of the global maritime industry continues to hamper opportunities for terrorists without having to adapt their tactics and exploit vulnerabilities. As piracy continues to be suppressed, terrorists may seek new ways to target vessels, ports, or critical maritime infrastructures. Therefore, sustained international co-operation, intelligence-sharing and capacity-building efforts will remain essential to counter the emerging threat of maritime terrorism in the Gulf of Aden.

Of past, there have been instances where ransom payments from piracy had been used to finance terrorist activities. However, the region's history of political instability and conflicts has created a fertile ground for extremist ideologies to take root, potentially hurling-in individuals with the intent to carry out terrorist acts at sea. Technical advancements and addressal of root causes of regional instability are continuing to serve the purpose. Promoting comprehensive maritime

²⁰ Schwehr, Kurt. "Vessel tracking using the automatic identification system (AIS) during

emergency response: lessons from the Deepwater Horizon incident." *Centre for Coastal and Ocean Mapping/Joint Hydrographic Centre* (2011): 14.

security measures and mutual cooperation can mitigate the risks and ensure the safety plus stability of one of the world's most critical maritime chokepoints. The future prospects of terrorism in the Gulf of Aden will continue to remain multi-faceted and versatile in its own way²¹. While efforts to combat piracy and enhance maritime security has yielded worth-mentioning progress, the potential for terrorist activities continues to loom (in a decreased number) due to various factors. The presence of civil conflicts, unstable economy, opportunity deprivation, weak governance, vast distances and social grievances create an environment conducive to the growth of extremist ideologies. This, deprivation and feeling of "*Children of lesser God*" has the potential to further attract individuals and groups to carry out terrorist acts while operating in deep blue seas. The Gulf of Aden's strategic importance as a maritime chokepoint presents a lucrative target for terrorist groups in search of disrupting international shipping and global SLOCs. To counter these future prospects, regional and international cooperation will serve as the omni-potent factor.

Regional and International Collaborations to Counter the Blue Water Terrorism

Regional and international collaborations have and can play crucial role in eliminating maritime terrorism. With better coordinated responses among littoral countries facing common threat, it offers due results. Significant effect of all such collaborations is the exchange of collated intelligence and updated information. When nations join forces, the foremost is to share critical intelligence on terrorist activities, suspicious vessels and potential threats. This serves as sequel to all other awareness measures, enabling more proactive and targeted responses. Collaborative efforts enhance capacity-building initiatives. Countries with stronger maritime security capabilities under MOUs train, provide technical assistance and offer resources to in-need nations for bolstering their maritime capacities. It also strengthens the capacity of individual countries to detect and respond to threats in their respective maritime domains, ultimately contributing to a safer and more secure maritime environment. These

enhanced capacities help national, regional and intra-regional collaborations to promote self-reliance and sustainable security solutions.

For the past decade or so, the most tangible factor practically experienced by concerned states has been regional and international collaborations facilitating Joint Maritime Patrols (JMP) and naval operations. Multi-national naval task forces or regional security alliances have conducted successful coordinated patrols in piracy-prone waters of IOR especially in Gulf of Aden and Arabian Sea.²² These patrols have acted as deterrent against attackers and terrorists alike. The collective presence of international and regional forces has provided reassurance to commercial ships, cruisers, JMPs and to seafarers resultantly boosting confidence boosting maritime trade economy. In rare circumstances, beyond tactical and operational domains, regional and international collaborations have been able to address the root causes of maritime terrorism via diplomatic and socio-economic measures. Dialogues and such high-level engagements amongst nations have not only fostered greater understanding but have enriched mutual-trust, understanding and facilitated joint problem-solving approach.

Conclusion

Maritime terrorism in the Indian Ocean with Gulf of Aden as a prominent case study, presents complex and multifaceted threats to regional security and stability. The analysis of terrorist groups has highlighted the role of political instability, economic disparity and weak governance. The findings underscore the critical importance of effective responses to counter maritime terrorism in IOR. As maritime terrorism continues to evolve, understanding and addressal of the root causes plus grass root politics becomes crucial. Fostering international cooperation, implementing legal frameworks and chalking-out punitive measures will play a pivotal role in deterring maritime terrorists cum pirates. Regional and International stakeholders must continue to work together to develop comprehensive strategies aimed at enhancing maritime security and safeguarding the freedom of navigation on global SLOCs.

²¹ Bello, Maryam Tejumola. "THE ROLES OF PRIVATE MILITARY AND SECURITY COMPANIES IN ADDRESSING MARITIME SECURITY THREATS." (2023).

²² Bekkevold, Jo Inge, and Robert S. Ross. "Anti-piracy and humanitarian operations: International order at sea: workshop 1." (2012).

Case study of the Gulf of Aden provides valuable insights into the challenges faced in combating maritime issues ranging from smuggling to piracy and terrorism. Significance of cross-border cooperation, enhanced initiatives of LEAs and measures in addressing all aspects of maritime terrorism will serve due dividends for the IOR. Regional and inter-regional actors must address political grievances, promote economic development, mutual trust, co-ordial relations and strengthen governance structures to prevent occurrence of criminal activities at sea. Coordinated naval patrols, intelligence sharing, capacity building, and public-private partnerships are indispensable components of a robust counterterrorism approach. In conclusion, the threats posed by maritime terrorism in the IOR, particularly in the Gulf of Aden, demand a multifaceted and collaborative response. In-depth understanding of the intricacies of maritime threats and collaborated unison working approach can serve as effective counterterrorism measures, the international community can create a more secure maritime environment. Shared commitment and decisive actions can ensure safety and persistence of region's maritime assets to retain the SLOCs in IOR as a beacon of global trade nurturing peace and prosperity.

Disclosure Statement

This paper titled **Threats of Maritime Terrorism in Indian Ocean: Lessons learnt from Gulf of Aden Case Study** is the original work of author, *Muhammad Junaid Khan*. All sources used in this paper have been appropriately cited and referenced.

I affirm that:

- The content of this paper is the result of my own research and analysis, except where acknowledged.
- All text, figures, tables, and other original materials included in this research paper are entirely my own work, unless otherwise stated and cited.
- Any contributions from others to this work have been duly acknowledged and referenced.
- All ethical guidelines and regulations regarding research involving human participants, have been followed throughout the process of conducting this research.

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