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**PROPOSAL FOR TOPIC APPROVAL TO BE SUBMITTED TO THE UNIVERSITY OF HAIFA FOR THE DEGREE OF MA IN POLITICAL SCIENCE**

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| **Title of Topic**:  | Are Blue Water Navies capable of undertaking missions across the full spectrum of operations in waters of interest in light of the changing paradigms of Asymmetric Warfare in the Maritime Domain? |
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**Introduction**

‘***Whoever rules the waves; rules the*** ***world***’

* **Alfred Thayer Mahan**

 Alfred Thayer Mahan (1840-1914), a naval strategist and the author of ‘***The Influence of Sea Power Upon History***’, argued that national prosperity and power depended on control of the world's oceans and sea. Further, in order to understand the importance and centrality of the role of sea power, Mahan argued that British control of the seas, combined with a corresponding decline in the naval strength of its major European rivals, paved the way for Great Britain's emergence as the world's dominant military, political, and economic power in the 19th and 20th centuries. Conversely, history reveals that as Great Britain’s ability to control the seas declined in the middle of the 20th century, its ability to sustain, influence and control its distant colonies concurrently declined, ultimately leading to the end of the British Empire.

 Under these guiding principles propounded by Naval Strategists, the roles of the navies matured across the globe till the end of the 20th century with considerable commonality in their stated aims, tasks and responsibilities. These roles broadly focussed on four pillars viz Military, Diplomatic, Constabulary and Benign dimensions encompassing (but not restricted to) protection of national interests, deterrence, enhancing maritime security, influencing affairs on land, protection of sea lanes of communication and trade, power projection, maritime diplomacy, Humanitarian Assistance and Disaster Relief operations etc[[1]](#footnote-1). To elaborate, the official website of the Royal Navy states its role as, ‘in the globalised world, we must have the ability to respond to any event that threatens our economy, our people, our national interests at home or abroad and those of our partners’[[2]](#footnote-2).

 In order to perform these roles, navies have developed various warfighting platforms ranging from aircraft carriers, destroyers, frigates, corvettes, missile boats, amphibious ships, submarines etc equipped with myriad weapons and sensors (in all three dimensions – air, surface and sub-surface) to be able to undertake both ‘***sea control***’ and ‘***sea-denial*** operations based on their stated national maritime aims. Solely based on the orbat of naval platforms in a nation’s inventory and in consonance with their maritime ambitions, navies are further divided into ‘***Blue water****’,**‘****Green Water****’*and ‘***Brown water***’ navies.

 While ***‘Green Water’*** and ‘***Brown water***’ navies, are restricted to a nation’s littoral arena or inland waters respectively, ‘***Blue water****’* navies have the ability to function across the spectrum of maritime operations and execute stated missions at great distances from their nations. According to the Indian Maritime Doctrine, 2015, ‘the ability to undertake distant operations distinguishes a blue-water navy from a brown-water force. It requires strong integral capacity, including logistics, surveillance, networked operations, etc and enabling capability, including equipment design, training, doctrine and organisation’. It states ‘distant operations rely upon the attributes of access, mobility, sustenance and reach in order to show presence, project power and/or accomplish other national objectives in the area of interest’[[3]](#footnote-3). In times of war, the main role of navies therefore focusses on providing own forces the freedom of movement and the ability to undertake unhindered maritime operations in the ‘area’ or in maritime terminology ‘waters of interest’ while concurrently denying the same to the enemy.

 **Diminishing Relevance of Conventional Military Roles in the 21st Century**. Once again quoting Mahan, ‘a country obtains [command of the sea](https://en.wikipedia.org/wiki/Command_of_the_sea) by concentrating its naval forces at the decisive point to destroy or master the enemy’s battle fleet and the true objective in a naval war is always the enemy fleet[[4]](#footnote-4)’. These Mahanian principles remained relevant throughout the 20th Century until 1988, which witnessed great naval battles during the World Wars as well as the Falklands War in 1982 between Great Britain and Argentina. The Falkland war was followed by the ***last known surface warfare engagement*** in recent history between the US Navy and the Iranian Navy in the Persian Gulf towards the end of the Iran-Iraq war in 1988[[5]](#footnote-5). ***The last three decades, have seen ‘Blue Water Navies’ performing and engaged mainly in Diplomatic, Constabulary and Benign roles, with no fleet to fleet engagements across the globe***; ***military roles being restricted to application of combat power from the sea during the Gulf Wars or Afghanistan campaign against a weak maritime state or non-state adversaries***.

 **Emergence of Asymmetric Maritime Warfare – A Cost Effective and Viable Alternative**. The relative calm in the oceans was abruptly disturbed on 12 Oct 2000 when USS Cole (*a 1.8 Billion USD Arleigh Burke-class Aegis-equipped guided missile destroyer*) was attacked by Al-Qaeda suicide operatives by ramming a small boat laden with explosives into the destroyer’s mid-section completely crippling it. 17 Sailors lost their lives in the unprecedented and unconventional attack with 39 being injured. Though this incident preceded the 9/11 attack on the twin towers by one year, in many ways ***it was the defining moment in maritime warfare when symmetry was substituted with asymmetry*** giving birth and recognition to the concept of ***Asymmetric Maritime Warfare***. The USS Cole incident highlighted a new paradigm in naval warfare. It also brought into focus the concepts of ‘***return on investment***’ or ‘***cost benefits***’ wherein relatively small, inexpensive and rudimentary craft/equipment could damage state of the art platforms worth billions of dollars. The attack on the USS Cole has opened a new chapter of asymmetric warfare at sea with a number of ships having been attacked by non-state actors inspired by the incident. The bombing of the Superferry 14 by the Abu Sayyaf Group in 2004 in Manila bay resulting in the loss of 116 lives[[6]](#footnote-6) as well as numerous other attacks on merchant ships since the year 2000, are indicative of the changed doctrines and strategies of non-state actors to inflict damage to targeted states.

 The allure to employ Asymmetric Maritime Warfare is not restricted to ‘***non-state***’ actors alone. ‘***State***’ actors too are increasingly integrating this new paradigm of warfare into their maritime doctrines for Anti-Access(A2)/Area Denial (AD) operations. Further, utilisation of asymmetric maritime warfare by State actors also affords an added caveat of not having the requirement to acknowledge or stake claim/responsibility for the such actions. The use of this paradigm by Iran in the Persian Gulf (missile capable swarm boats and drones) or China (laser attacks by maritime militia)[[7]](#footnote-7) in the South China Sea are indicators of the increased acceptance and relevance of Asymmetric Maritime Warfare. ***The end-state therefore allows a significant cost effective advantage to a state for establishing a successful ‘sea-denial’ strategy in its littorals counter to the aim of its adversaries to achieve ‘sea-control***’ ***in these ‘waters of interest***’ ***to allow uninhibited and unhindered freedom of operations in the***.

 **Evolving Complexity of Asymmetric Maritime Warfare**. The swarm boat tactics of the late eighties which continue to be seen in the Arabian Gulf today have received a ‘***shot in the arm***’ with the development of new, easily accessible and cheap technology in the form of Drones. When the Houthi rebels in Yemen first used maritime drones in January 2017, the assault on a Saudi frigate highlighted the little-known development of sea-capable semi-autonomous weapons[[8]](#footnote-8). The ever-increasing popularity of Drone Warfare was recently witnessed in Sep 19 when the world’s largest oil processing facility, Saudi Aramco’s Abqaiq Refinery was attacked by drones and missiles claimed once again by the Iran backed Houthi rebels of Yemen. These attacks were preceded by drone attacks on the Shaybah Oil Field and then again on the East-West pipeline which links Saudi Arabia’s eastern production facilities with the Red Sea[[9]](#footnote-9). China has already started exporting killer drone robots armed with machine guns to countries in the middle east[[10]](#footnote-10) heralding the commencement of a new type of an arms race. The development of drone technology has already crossed the threshold of line of sight local area operations to satellite controlled drones which can undertake distant operations for extended durations with a variety of payloads.[[11]](#footnote-11) Expanding the repertoire and diversity of operations; China, Russia, USA and UK are already in the process of developing Underwater Unmanned Vehicles for creation of an underwater intelligence, surveillance and reconnaissance network,[[12]](#footnote-12) to add to the already available array of midget submarines, torpedo launchers and submarine wolfpacks. ***Under development by private defence industry, once successfully tested, these modern war machines would join the arms supplier basket***.

 **Resultant Strategic Environment in the Maritime Domain**. The increasing proliferation of the aforementioned advanced force multiplying technologies, including unmanned and autonomous systems, advanced, cost-effective anti-ship ballistic and cruise missiles, midget and chariot submarines as well as high-speed, heavily armed small surface combatants, are providing both state and non-state actors unique abilities to hinder the way traditional maritime powers establish and maintain sea control. ***The resultant end-state therefore allows establishment of a cost effective and efficient ‘sea denial’ doctrine for littorals as well as provides cheap and novel avenues and technology to ‘non-state’ actors vis-à-vis the abilities of maritime nations to achieve ‘sea control’ in the waters of interest*** ***as well as counter omni-present threats posed by non-state actors in busy and dense maritime domains***.Contrary to the developments in the ‘Asymmetric’ segment of maritime warfare, Blue Water platforms continue to be constructed and equipped for traditional maritime roles with limited counter asymmetric warfare capabilities, which can severely impinge their abilities to undertake unrestricted operations across the entire maritime spectrum and in all ‘waters of interest’. The abilities of Blue Water platforms to counter the changing paradigm of Asymmetric Maritime Warfare continues to remain a ‘***grey***’ area and requires in-depth analysis.

**Research Hypothesis**

 The rapid developments in the asymmetric segment of the maritime domain are far outpacing the development of counters or mitigating doctrines, strategy, technology and tactics. The advanced navies of the world are still utilising their blue water platforms to combat asymmetric maritime threats which due to the arguments presented above maybe ill-equipped not only technologically, but may also may come up short in terms of doctrine, strategy and training. Development of ‘blue-water’ navies is a capital-intensive activity which is not only shaped by a nation’s maritime doctrine and strategy but also requires years of investment in research and development, human resource, ship building, trials etc in order to execute envisaged maritime missions in support of stated maritime doctrine/strategy. The crucial question therefore which presents itself to all nations with blue water navies, ‘whether to reequip / reorient existing blue water platforms for asymmetric operations or create niche platforms to counter the same***.***’

**Statement of Problem**

 Are Blue Water Navies capable of undertaking missions across the full spectrum of operations in waters of interest in light of the changing paradigms of Asymmetric Warfare in the Maritime Domain?

**Hypothesis**

 There is a requirement for Blue Water navies to either reequip / reorient existing or develop new platforms for undertaking unrestricted full spectrum maritime operations in an asymmetric environment including formulation of doctrine, strategy and tactics to deal with these emerging threats while concurrently maintaining capabilities of undertaking conventional blue water operations.

**Aims and Objectives**

 The aims and objectives of the research paper are focussed on examining the changing paradigms of Asymmetric warfare in the maritime domain and how is it being applied by both state and non-state actors to further their goals and desired end-state.

 The study would then examine the capabilities of modern blue water platforms and analyse whether the existing doctrine, strategy and tactics as well as weapons, sensors and equipment which are primarily designed for undertaking military maritime roles are concurrently competent to undertake missions across the full operational spectrum in the maritime domain in ‘waters of interest’ in an environment predominated by asymmetric maritime warfare.

 The paper also seeks to present recommendations and probable solutions with respect to mitigating the challenges posed by asymmetric maritime warfare for blue water navies.

**Materials, Methods and Resources**

 The preliminary literature survey has brought to the fore that whilst there are various books and articles available on various aspects of the study viz Asymmetric maritime warfare, Blue Water navies and operations, development of drones and autonomous weapons in the maritime domain etc, there is almost no literature which connects these aspects and examines the implications of these changing paradigms on blue water navies and their abilities to undertake unrestricted maritime operations. This study, therefore, is extremely contemporary, relevant and timely as it seeks to address a hitherto unexamined aspect in the maritime domain and suggest recommendations and alternatives for mitigating or countering the restrictions or threats imposed by asymmetric maritime warfare on blue water operations.

 The research is aimed to be undertaken by studying various books, official documents, articles, journals, specific research papers etc published on various linked topics and subjects. It is also intended to interview and interact with established and well-known naval strategists for obtaining their thoughts and views on the stated problem and area of research. Subject to feasibility, attempts will also be made to interact with companies involved in development of drones (based in Israel) to ascertain full capabilities and ramifications on maritime warfare.

**Chapter Outline**

**Chapter One**. This is the introductory chapter. It lays out the statement of problem and hypothesis for the thesis as also the rationale for undertaking the same. It further explains the aims and objectives of the research. It explains the scheme of Chapters and the expected outcomes as also certain references that form part of the study.

**Chapter Two**. This Chapter seeks to introduce the concept of sea power and the importance of the seas for national security. It would further go on to examine the various roles and missions of navies across the globe and establish a commonality in stated aims and missions.

**Chapter Three**. This Chapter intends to explain and differentiate between Blue, Green and Brown Water navies and highlight the roles of Blue Water navies and their ability to undertake missions across the full spectrum of maritime operations in ‘waters of interest.’

**Chapter Four**. Chapter four is intended to focus on the emergence of Asymmetric Maritime Warfare and examine its scope, dimensions, strategy and application. This chapter will also refer to the adoption and integration of this type of warfare in operating strategies of both State and Non-state actors.

**Chapter Five**. This Chapter is designed to examine the emerging trends in Asymmetric warfare based on technological developments, cost and easy accessibility.

**Chapter Six**. Chapter Six will deal with the current capabilities of Blue Water Platforms and examine their ability to undertake unrestricted maritime operations across the entire spectrum of roles in a pre-dominantly asymmetric environment. This Chapter would also seek to clearly establish whether there is indeed a requirement of a capability development/enhancement to mitigate asymmetric threats without compromising maritime missions, and if yes; examine whether it would be more feasible to re-equip/reinforce existing Blue Water platforms with counter asymmetric capabilities (including adaptation of doctrinal, strategic, operational and tactical changes) or develop niche platforms for these roles. It is also intended to highlight a few hypothetical scenario-based examples to understand various missions that blue water navies may be called upon to undertake in peace, less than war or war situations with a pre-dominant asymmetric threat.

**Chapter Seven**. This is the concluding Chapter and based on the outcomes of the research in the preceding chapters, this section would focus on plausible mitigations strategies and recommendations for blue water navies to undertake unrestricted maritime operations undeterred by the presence of asymmetric threats in the ‘waters of interest’.

**Expected Results/ Outcomes**

 The Research is expected to establish with clarity whether Blue Water navies in their present form are capable of undertaking missions across the full operational spectrum in the maritime domain in ‘waters of interest’ in an environment predominated by asymmetric maritime warfare. In the event of confirmation of the hypothesis, the paper also seeks to present plausible recommendations as well as mitigating strategies for Blue Water navies to undertake unrestricted missions across the globe undeterred by the prospect of asymmetric threats in the maritime domain.

**Preliminary References**

Influence of Seapower upon History – Alfred Thayer Mahan

Principles of Maritime Strategy – Sir Julian Stafford Corbett

Sea Power – A guide for the Twenty First Century by Professor Geoffrey Till

The Indian Maritime Doctrine (updated online version of 2015) and the Indian Maritime Security Strategy (IMSS) 2015, published by the Indian Navy

What is maritime security? By Christian Bueger, Marine Policy 53 (2015) 159–164

Asymmetric threats at sea: a perspective on three cases- By Associate Professor, Ph.d. Francois Vreÿ Faculty of Military Science, Stellenbosch University, South Africa

Asymmetric Maritime Threats in the Indian Ocean Region by Commander Gurpreet S Khurana, Indian Navy. Published in Pradeep Kaushiva and Abhijit Singh (eds.) Indian Ocean Challenges: A Quest for Cooperative Solutions (2013: NMF/ Knowledge World Publishers, New Delhi), pp. 35-52

Countering Asymmetrical Warfare in the 21st Century: A Grand Strategic Vision by David E. Long. Published in Strategic Insights, a bi-monthly electronic journal produced by the Center for Contemporary Conflict at the Naval Postgraduate School in Monterey, California

Bruzzone, A., Massei, M., Tremori, A., Madeo, F., Tarone, F. & Longo, F. 2011, "Maritime security: Emerging technologies for asymmetric threats", 23rd European Modeling and Simulation Symposium, EMSS 2011, pp. 775.

Maritime Dimension of Hybrid Warfare – The Indian Context. Author: Gurpreet S Khurana, Date: 28 December 2017. (This is a revised extract of chapter titled “India’s Strategic Landscape, Hybrid Threats and Likely Operational Scenarios” jointly authored by Gurmeet Kanwal, Syed Ata Hasnain, Gurpreet S Khurana and Manmohan Bahadur, in Satish Kumar (ed.) India's National Security: Annual Review 2016-17 (Routledge India: December 2017)

The Maritime Dimension of International Security Terrorism, Piracy, and Challenges for the United States by Peter Chalk

Security threats and challenges to maritime supply chains by Vijay Sakhuja

Talking about Sea Control by Robert C. Rubel

[Command of the Commons: The Military Foundation of U.S. Hegemony](https://www.mitpressjournals.org/doi/abs/10.1162/016228803322427965)

International Security 2003 28:1, 5-46. Barry R Posen

<https://www.defensenews.com/global/asia-pacific/2019/05/31/testing-the-waters-chinas-maritime-militia-challenges-foreign-forces-at-sea/>

<https://www.globalsecurity.org/military/library/report/1993/MFJ.htm> - Littoral Warfare: Adapting to Brown-Water Operations

<https://nationalinterest.org/blog/buzz/navy-getting-robot-wolfpacks-and-americas-enemies-should-be-worried-107976>

<https://www.telegraph.co.uk/politics/2020/01/04/britain-sends-warships-persian-gulf-protect-citizens-wake-qassim/>

[https://www.ynetnews.com/articles/0,7340,L-4696788,00.html](https://www.ynetnews.com/articles/0%2C7340%2CL-4696788%2C00.html) - Navy exercises asymmetric underwater warfare

<https://missiledefenseadvocacy.org/missile-threat-and-proliferation/todays-missile-threat/china-anti-access-area-denial-coming-soon/>

<https://trajectorymagazine.com/how-maritime-geospatial-analysis-helps-identify-asymmetric-threats/>

<https://www.thalesgroup.com/en/united-kingdom/news/answering-asymmetric-maritime-threat>

1. www.indiannavy.nic.in [↑](#footnote-ref-1)
2. www. [https://www.royalnavy.mod.uk](https://www.royalnavy.mod.uk/) [↑](#footnote-ref-2)
3. Indian Maritime Doctrine 2015 [↑](#footnote-ref-3)
4. Influence of Sea Power on History – Alfred Thayer Mahan [↑](#footnote-ref-4)
5. #  U.S. strikes 2 Iranian oil rigs and hits 6 warships in battles over mining sea lanes in gulf *-* By John H. Cushman Jr., New York Times

 [↑](#footnote-ref-5)
6. <https://safety4sea.com/cm-superferry14-the-worlds-deadliest-terrorist-attack-at-sea/> [↑](#footnote-ref-6)
7. #  Testing the waters: China’s maritime militia challenges foreign forces at sea By: [Mike Yeo](https://www.defensenews.com/author/mike-yeo)

 [↑](#footnote-ref-7)
8. The future of Drone Warfare: The Rise of Maritime Drones [↑](#footnote-ref-8)
9. Drones just attacked the world’s largest oil refinery – By Justin Rohrlich [↑](#footnote-ref-9)
10. <https://futurism.com/the-byte/china-selling-autonomous-killer-drones> [↑](#footnote-ref-10)
11. <http://www.headcommunications.nl/whats-on/2007-2/> **- Is Satellite Communication in the future of Drones** [↑](#footnote-ref-11)
12. The future of Drone Warfare: The Rise of Maritime Drones [↑](#footnote-ref-12)