

Enhancing Maritime Consciousness for Sea Power



**Proceedings of a Webinar Conducted by the Western Naval
Command (Indian Navy), the Indian Maritime Foundation and
the Nautical Institute India (West) on 04th November 2020**

Proceedings of a Webinar on

Enhancing Maritime Consciousness for Sea Power

Edited by

Cmde Srikant Kesnur
Cdr Shrawan Kapila
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Western Naval Command

Proceedings of a Webinar on ‘Enhancing Maritime Consciousness for Sea Power’

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FOREWORD

Oceans hold the key towards shaping the world as a majority of human population lives in the proximity of the coast. While our nation had been at the centre stage of maritime activity in early history, much of the maritime vigour dwindled over a period of time as invasions happened and most rulers started looking inwards. As a nation surrounded by an ocean which shares its name, we are strategically located at the nautical ‘crossroads’ connecting the East and the West. The need for a maritime mindset across the complete spectrum of society from active stakeholders to the common citizen, therefore, becomes imperative. Hence ‘*Enhancing Maritime Consciousness*’ is an apt start point for this mission which would also, inter alia, contribute to our Sea Power in the long run.

The Maritime realm is a complex workspace with many stakeholders operating simultaneously in the arenas of economic development, trade, military activity, exploration, scientific study and diplomatic interactions to name a few. This vast space covering nearly 70% of the earth’s surface is a global common and is, therefore, also host to illegal activities like human trafficking, gun running, piracy, armed robbery, moving of contraband, unregulated fishing and the like. With India gaining traction as a key maritime player in the Indo-Pacific region, the maritime domain will gain significance in the fields of economy, geo-politics and strategic decision making. To enable optimal decision-making, awareness of this complex domain is vital. *Maritime Consciousness is, therefore, one of the stepping stones towards consolidating Sea Power.*

With the central theme of ‘*Enhancing Maritime Consciousness*’, the Western Naval Command coordinated with maritime stakeholders, viz, the Indian Maritime Foundation and the Nautical Institute, India (West) to conduct a webinar and put together a panel of experts from a wide spectrum of maritime stakeholders – from military to merchant marine, from policy makers to historians and academics – all on one platform to opine and prescribe ways and means for enhancing maritime consciousness. The publication of the proceedings is

intended to ensure that relevant issues reach a wider audience across disciplines and not just be restricted to maritime professionals or those who attended the webinar. This publication will serve as a useful reference material to all those interested in matters maritime. I compliment the Editors of this volume for their efforts and recommend it for reading to all those looking at enriching and developing maritime consciousness.



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Introduction

The Maritime Domain is a dynamic space offering multifarious challenges and opportunities to its users. The seafaring community is a diverse bunch of professionals with specific niche capabilities and different job requirements, operating in the global commons that are the oceans. While Militaries, Merchantmen, Missionaries, Mercenaries and, indeed, Mavericks have been an intrinsic part of this domain for centuries, certain new activities like marine sports, aqua culture, sea-bed mining, under sea communication cabling have added to the dizzying mix of users of oceans. Correspondingly, opportunities such as the concept of Blue Economy and threats such as Terrorism and Piracy have also gained increasing salience not just in maritime but also national and international narratives. For a nation poised at the cusp of emerging as a big power, the need to understand, utilize and develop the resources of the maritime space becomes imperative. The need, therefore, to engineer a decisive shift from ‘sea-blindness’ to ‘sea-mindedness’, is more relevant today than ever before.

The Western Naval Command, over a period of time and through several initiatives, has been endeavouring to bring together not only sea going professionals, but also maritime enthusiasts, academics and historians alike. This webinar on the subject of *‘Enhancing Maritime Consciousness for Sea Power’*, which was conducted along with the Indian Maritime Foundation (IMF) and Nautical Institute (NI) on 04 Nov 20, was one such initiative and brought together Flag Officers, technical experts and experienced speakers from the Indian Navy (IN), Indian Coast Guard (ICG), the Merchant Marine, scholars, academics and a veteran Admiral from the Royal Navy to present papers and discuss matters of contemporary relevance generating interesting conversations on Enhancing Maritime Consciousness.

The event at ground level was coordinated by us at the Maritime Warfare Centre and was attended by professionals from Indian Navy, Indian Coast Guard, Merchant Navy, Maritime Administration, Marine Service Agencies and Academics to name a few. The webinar was full day event conducted over six sessions including three technical sessions, one special session and the opening and closing sessions. Each technical session had subject matter experts who presented their perspectives and was moderated by experienced professionals. The Q&A at the end of each session generated interesting discussions covering diverse viewpoints. The vibrant debates and the wealth of information generated both in terms of interactions and papers received encouraged us to reach out to a larger audience and ensure wider dissemination of the contents of the webinar. Consequently, the audio recordings of the webinar were transcribed to generate the contents of this book, which will find resonance and relevance amongst readers and enthusiasts of matters maritime.

In accordance with best editorial practices any mistake that may have inadvertently crept in, remains the responsibility of the editorial team.

We wish you happy reading!

Editors

Opening Address

Capt Anand Dixit, Master Mariner
President, Indian Maritime Foundation

The theme for today's webinar is enhancing maritime consciousness. As you may be aware this is one of the objectives of the Indian Maritime Foundation and we have been working towards it for the past 25 years. But enhancing maritime consciousness was thought to be an end in itself. Now we are referring to it as a means towards another objective – to become a sea power.

The second part of the title - challenges on account of our continental milieu. This is something that will have to be overcome gradually and I think there is already a noticeable shift in the right direction.

The communication media can play a major role in shaping public opinion and enable the society to break out of the landlocked mindset. We are going to hear different views on the subject from the eminent speakers today. But very briefly I would like to offer my own thoughts on the subject.

Maritime consciousness, as I understand it, is awareness of the maritime domain which itself is a large and complex realm. There is the defence and security aspect as well as trade and commerce, exploration, and exploitation of living and non-living resources, tapping the renewable energy from winds, waves and tides, scientific research of the whole underwater world and so on, but all activities in the maritime domain must be carried out in a responsible manner and with due regard for the marine environment. All this must be conveyed to the common people and to the policy makers in an effective way using the appropriate media. Today's theme refers to the road towards becoming a sea power. I hardly need to define sea power but I must do it in the context of today's theme.

Sea power is commonly understood to mean - power by which a nation extends its military power onto the seas. It is measured in terms of a nation's capacity to use the seas to its own advantage and deny it to the adversaries. This implies that we are not shy anymore of declaring our intent to become a POWER. I am sure such an aspiration, declared openly, would have shocked many good people in the country in the first decade of our independence. When we talk about sea power we actually mean maritime power not restricted to naval power which in any case remains the central and the most important element of Maritime Power. The term Maritime Power has a broader meaning and includes political, military, and economic components.

The great American strategist Admiral Alfred Mahan mentioned three things necessary to make a sea power: a merchant fleet to transport the goods and create wealth, a combat fleet to protect the goods and a chain of secure bases to fuel and supply both the combat and the merchant fleets. The one country that has adopted this doctrine without acknowledging is China. So, it will not be out of place to mention how China is expanding its sea power. China invested heavily in shipbuilding, industrial infrastructure, and commercial shipping, while simultaneously developing a powerful combat navy.

Whereas Admiral Mahan suggested two arms necessary for the making of a naval power, the fighting navy and the merchant marine China has used five arms - I will call them five tentacles. They are: One is the large PLA Navy, the fastest growing navy in the world and expected to surpass the USA by 2050. Second is the Chinese coastguard - number of ships and other assets are undisclosed but believed to be sizable. Third comes the Chinese Maritime militia - the mysterious marine wing consisting of small ships resemble fishing boats. It is an unofficial arm of the PLA Navy. These boats are known for their aggressive behaviour and threatening manoeuvres. The purpose of employing such a shadow force is obvious, which is to keep aggression below the level of a military conflict and enjoy the benefit of deniability. Fourth is China's vast fishing fleet. It is under the control of Chinese government and subsidized by it. It has contributed to a great extent in asserting China's maritime claims in the South China Sea simply by being there in large numbers and occupying the waters. Finally, the Chinese merchant fleet. With close to 3900 merchant ships the Chinese flag is visible in every part of the world. China's COSCO group is the third largest container operator in the world. The PLA Navy and the coastguard, the thinly disguised maritime militia, Chinese merchant fleet, and the vast number of fishing vessels all working in tandem with the PLA Navy, make up the sea power of China.

What should be India's roadmap to become a sea power? I hope some interesting ideas will emerge in today's discussions.

Coming to the Indian maritime scene; I will leave the naval side of it to the speakers better qualified than me to talk about it. As far as the merchant shipping is concerned, I would like to mention just 4 points. All of them well known already: -

1. Less than 10% of India's export/import cargo is carried in Indian bottom. This is hardly new information. We all know it and we have been lamenting this fact for years. But if Indian shipping is to be linked with India's maritime security then some new and dynamic ideas are needed to boost Indian tonnage.
2. Revision of the outdated Acts such as the Merchant Shipping Act, Major Ports Act Inland Vessels Act and others. These outdated Acts from the colonial era are hindering the growth of Indian shipping and Indian ports. Participation of professional bodies and think tanks in the process of drafting new Acts must be given serious consideration.
3. Urgent need for promoting world-class ship building yards which can reduce the time and cost of building ships without compromising on the quality.
4. And the last - Lack of Ship repairing facilities. We lost an early advantage in this field to other countries in the region. If there is one place for implementing ATMANIRBHAR ABHIYAN; it is here.
5. I believe that The Maritime Vision 2030 soon to be released by the Prime minister deals with some of the issues I mentioned.

I hope at the end of the day, we will have some positive takeaways towards achieving the objective of this webinar. Let us look forward to an interesting day ahead. And with that I conclude my opening address. Thank you.

Inaugural Address

Capt Kapildev Bahl, Master Mariner
Chairman, Nautical Institute India (West)

Vice Admiral RB Pandit, AVSM, Chief of Staff, Western Naval Command Rear Admiral G Srinivasan, AVSM, VSM, Director General Naval Projects, Mumbai Capt Dixit, President, Indian Maritime Foundation, Dignitaries, Fellow Mariners and Attendees.

Our seminars were conceived to encourage interaction between the Indian Navy, the Indian Coast Guard and the Merchant Marine. The theme "Fostering Maritime Cooperation between Seafaring Communities" was accordingly coined in 2012, and this has now become a respected and well attended annual event. Topics during the previous years have covered diverse subjects such as the "Experience of seafarers held in captivity by pirates, Navigation, Communications, Role of P&I Clubs in Oil Pollution, oil transfer operations, Control Regime of Merchant Ships etc.

Due to the COVID pandemic restrictions, we are organizing this webinar on-line. Continuing with my habit of looking for a silver lining in dark clouds, I could not but help compiling a list of positive outcomes of this lockdown. The last entry in my diary was that the cashiers no longer lick their thumbs while counting notes. Seeing a larger participation and wider geographically more diverse origin of speakers and attendees today, I am pleased to add one more item to that list, namely, the hastening of our digital presence.

The topic this year is "Enhancing Maritime Consciousness". The main purpose of a nation extending its military power onto the seas has traditionally been the ability to keep open the sea-lanes, to protect shipping interests and to deny that space to adversaries, which aspect can literally determine the outcome of conflicts. However, and this is important, in today's multi-lateral world, in which a merchant ship may be owned by a company incorporated in nation A, registered and flagged in nation B, classed with a society in nation C, technically managed by a company in nation D, chartered to an entity in nation E and manned by a multi-national crew, carrying cargo of interests of nations F and G, how does one protect "shipping and national interests"?

In the Indian context, our vast coastline, our geographical location, straddling the Arabian Sea, the Bay of Bengal and dominating the Indian Ocean, compels us to fulfil our role of a maritime nation by evolving the appropriate sea-vision. To an EXIM goods trader, the sea may appear as merely as the most cost-effective and environment-friendly means of transportation, from among the various choices available. However, for a mariner on board a ship, viewing the coast from a few miles off, the sea dominates and connects the continents, the effective control of which represents a lifeline of opportunities.

The Nautical Institute India, more particularly the directors, Capt Limaye, Cmde Sandhu, Capt Halbe, Capt Naik, Capt Singh and Capt Deshmukh; internally deliberated this subject in the Merchant Marine context, endeavoured to conceptualize the means by which a nation enhances her Maritime Consciousness and they concluded that developing the following key sectors tends to enhance the sea-power a nation, any maritime nation, not just India:- Developing the Offshore Industry, Coastal Sea-Trade, Port Infrastructure, Ship Building and Ship Repair facilities, Tonnage

under Indian Flag, Liability Insurance and most important, ease of Doing Business by Conducive Maritime Legislation and Policy Framework.

We have with us, excellent speakers with relevant domain expertise to discuss some of these aspects. Capt Kamat will highlight the issues faced by coastal shipping and suggest solutions. Cmde Sandhu and Capt Khatri will similarly deal with the subjects of the “offshore industry and port infrastructure” respectively. Rear Admiral Lambert will discuss the experience of The United Kingdom’s journey of enhancing her maritime consciousness.

In the absence today, of a special paper on “tonnage under the Indian flag” and on “Liability Insurance”, I shall briefly summarize the conflicting interests in each industry.

As regards tonnage, there are 2 broad categories, passenger, and cargo traffic, each divided into 2 components, domestic and international. In the domestic sector, the three competing modes are road, rail, coastal or inland waterways. This is being covered in one of the papers. However, EXIM cargo trade, for which the competing modes are Indian or foreign flag ships, too, needs some deliberations. Hoping that import cargoes are fixed on FoB terms and export cargoes on C&F is easier said than done. There will always be conflicting pulls and pressures. The traders would prefer to retain the widest choice and encourage healthy competition. National security interests however demand that Indian flag vessels carry a significant percentage of cargoes. The authorities could do well to deliberate and establish long term policies. For example, in respect of state-owned cargoes, the Indian flag vessel’s right of first refusal policy was recently amended to give top priority to ships built in India which is good, but the rule needs to be applied prospectively, because a vessel built many years ago, is not creating future income or employment today. Informatively, the Right of First refusal does not result in increasing the cost of transportation.

We have a healthy and vibrant property insurance market to cater to the Hull and Machinery Insurance of our vessels. However, we lack the “liability insurance” infrastructure. Under normal circumstances, this does not restrict or constrain our trade. However, if liability cover by an overseas entity is denied to an oil tanker, it would effectively restrict her trading pattern.

The stated policy of “stakeholder consultations” needs to go much further than merely uploading a document and seeking public response. There is an urgent and systematic need to acknowledge every message, to study comments and respond positively. I am sure Capt Subhedar will throw more light on this subject and the need for a Conducive Maritime Legislation regime.

And finally, I would like to conclude by sharing a very personal sentiment, which I suspect my close family is aware of, but which I have never articulated in public:

My greatest joy is the good fortune of being born in this nation,
My highest gratitude is to this land, which nourished my body,
My most respectful salute, is to this nation’s values which have nurtured my mind,
My greatest regret is that my sweat and tears are insufficient to clear my obligation to her,
My most fervent prayer is to be re-born in this motherland to repay this debt in blood.

I wish the event, all success. Jai Hind.

Keynote Address

VAdm RB Pandit, AVSM

Chief of Staff, Western Naval Command

Capt Anand Dixit, Master Mariner & President, Indian Maritime Foundation, Capt Kapildev Bahl, Master Mariner & Chairman, Nautical Institute, India (West), distinguished delegates and panellists, Flag Officers, Commanding Officers, Officers of various Govt Departments, ladies and gentlemen, a very good morning to all of you.

At the very outset, let me say that I consider it an honour and privilege to address the 7th edition of Maritime Seminar, which is being jointly conducted by the ***Western Naval Command***, the ***Indian Maritime Foundation*** and the ***Nautical Institute, India (West)***. I also take this opportunity to thank all the delegates and panellists who accepted our invitation and who through their participation will enrich us with their domain knowledge and expert annotations. It is also heartening to see the zeal, enthusiasm and teamwork with which different agencies of the seafaring communities are collaborating to build awareness/ consciousness of affairs Maritime, to the general public, interested stakeholders and policy makers and to underscore the salience of the maritime domain to national security and prosperity.

Such events also offer opportunities for us sea farers to come together under one roof or in the current virtual format, on one platform to discuss issues of mutual interest, benefit from each other's knowledge, perspectives and varied experiences. With every edition the quality of papers and level participation has grown and I am hopeful that this edition of the seminar will see a similar outcome.

Under the rubric of enhancing cooperation between the sea faring communities, the subject of this year's webinar is **'Enhancing Maritime Consciousness for Sea Power'**. Given the trajectory of geo-economics, geo-politics, and geo-strategies over the last few decades I don't think there is much doubt that the maritime domain will occupy centre stage in the years to come with the economic wellbeing, security and prosperity of nations intimately linked to the oceans. It is therefore most appropriate that we gather to discuss nautical issues, or a topic more pertinent than this. With the 'Indian Navy Day' exactly a month away, it is also entirely appropriate that this event is the curtain raiser the Navy Day celebrations to follow.

India, by virtue of its geographic location occupies a key position straddling the vast network of sea lanes criss-crossing the Indian Ocean since times immemorial. India boasts of a glorious past with well-developed education system, splendid architecture, rich art and culture and above all a well- developed sea faring tradition that contributed to the spread of its art and culture to several countries of the world through the peaceful use of sea power. Sanjiv Sanyal has brilliantly captured this dynamic in his book *the Ocean Of Churn, how the Indian Ocean shaped human history* where he says and I quote "thus when Vasco da Gama led the Portuguese Fleet into in Indian Ocean in 1498 it was already a highly interconnected eco system for a very long time. Its economic importance can be gauged from the fact that both the Chinese and the Europeans, who were not directly part of this eco system, made great efforts to gain access to it" unquote. Further

Robert Kaplan in his influential book *Monsoon: the Indian Ocean and the Future of American Power* argues that the geo-politics of the 21st century will be decided by events in the Indian Ocean rim.

Clearly our forebears were engaged in intense seafaring activities and water borne trade in and around the waters surrounding us from the early days. Although India's maritime tradition predates the Greek, Roman and Carthaginian exploits in the Mediterranean, not enough was known about it, because it was not documented adequately. For this reason, we accept the accounts authored by Western historians, who rarely make mention of the sea faring skills of Indians, Arabs, or the Chinese. Our maritime tradition spans over 4000 years and is deeply imbued in the psyche of our coastal population and manifests itself in their customs and traditions. Until the arrival of colonial powers from Europe, the Indian seaboard had, by & large witnessed peaceful maritime activity, **with trade and commerce being the prime drivers.**

The landing of Vasco da Gama at Calicut in 1498 added a new dimension to the maritime activity in India, that is the 'military component' of Sea Power. The Portuguese were followed in quick succession by the Dutch, the British and French who came into the Indian Ocean riding on their blue water naval capability which ultimately lead to colonisation of India. This happened in large part because most of the Indian states focussed their energies on threats to security over land. With no insightful understanding of the inexorable influence of sea power they paid scant attention to the maritime domain as a source of insecurity and control of the seas slipped into European hands and a searing colonial experience followed. **Greater maritime consciousness should have been a self-evident consequence of this lesson of history** but as is often lamented this has not quite been the case.

Strange while this may seem the fact is that that even in present day UK there are more than a few who similarly ascribe sea blindness to the lack of budgetary support for the Royal Navy. This is unfathomable for a nation that has benefitted so much and so greatly by its command of the seas.

So is there something else at work here? 'Sea Power' is a measure of a nation's capacity to use the seas to its full advantage more often than not in the face rivals and competitors in a zero-sum game. The great American Strategist Capt AT Mahan, wrote in 1902 that "*War has ceased to be the natural, or even normal, condition of nations, and military considerations are subordinate to the other great interests they serve: **economics and commerce***". He envisaged the true path to national prosperity and greatness lay in trade, with access to sources of economic well-being and commerce being of paramount importance: **with 'Sea Power' being only a means to this end.** This would imply that even the proponent of 'big battle' or 'hard power' saw sea power to be military or naval power plus merchant marine and host of other factors. Today, a state's maritime power encompasses a much broader definition. It includes a state's dependence on sea, maritime tradition, merchant fleet, sea borne trade, imports and exports, development level of the ports and bases with cargo handling facilities, continental shelf, seabed area, marine resources etc.

Over the last hundred years or so, the concept of sea power has undergone further transformation. From the classical Mahanian thought to the contemporary interpretation, several new elements have emerged. Principal amongst these are technology to extract resources from the

sea bed and provisions of UNCLOS 1982 that have sought to balance the competing demands of national jurisdiction over the seas with the necessity to preserve the maritime domain as the great global commons. States have become conscious of the riches of the seas, and their ability to extract these for the well-being of their people. This has transformed their understanding of the seas- from being a medium to use for its access potential to also being a valuable possession to be held onto and exploited exclusively. The inevitable extension of national jurisdiction over the seas makes navies an essential element of sea power. The astonishing growth of the PLA Navy can be seen to be a direct consequence of this dynamic.

India on the other hand has always been a great maritime nation as far as sea faring skills, ship building traditions, and trade and commerce go but we have not had a similar understanding of the importance of sea power. This has impacted development of sea power in all its aspects and dimensions and thereby denying us the full advantage of our strategic location.

In recent years, there has been rapid growth of India's economy stimulated by globalisation, leading to not just large foreign direct investment in India, but also heavy Indian investment abroad. This, along with a large Indian diaspora world over, indicates our growing economic interests worldwide. India's economy as well as progress and prosperity are largely dependent upon international trade, which is carried by sea, as is the energy, the lifeline of our industries. These factors, coupled with the prospects of harvesting oceanic resources and India's growing profile, along with the growing realisation of our dependence on the seas should enable the necessary investment in the comprehensive development of sea power.

In this context our PM's vision of SAGAR - Security and Growth for all in the Region seeks to benefit from concepts such as the Blue Economy and to leverage the idea of the seas as a common heritage of mankind in an inclusive and collaborative approach. This vision, backed by the SAGARMALA programme, a project that entails investments in new ports, modernization of existing ones, setting up of coastal economic zones etc., all augur well for India's maritime outlook.

At this juncture then it may be appropriate to pose three questions

- **First**, we must critically examine if 'sea blindness' of our decision makers and people is the singular factor that prevents or constrains the development of sea power or are there other factors at play?
- The **second** question that is pertinent is, whether a strong sea faring tradition essential to the development of sea power? The idea of maritime consciousness would suggest so however, Germany and Japan in the early part of the last century, Russia in Second half and China recently provide counter factuals. None of these countries had any significant maritime tradition or ethos but that did not prevent them from becoming significant Sea Powers in their own right when they chose to develop sea power.
- The **third** question is assuming that need exists for maritime consciousness, how do we go about building it in the face of competing perspectives? How should navies and other maritime security forces, the Merchant Marine, fishing, shipping, and the entire gamut of

maritime businesses position themselves in a post-covid world of tightening budgets and insularity? Will the evident benefits of blue economy and unhindered access for trade and commerce stand up to the competing impulse to circle the wagons and hunker down? What would give us enhanced equities and greater recognition within national scheme of things? I hope some of the discussions in the seminar will cast light on these aspects.

In conclusion, it is a truism that oceans have been the original highway to prosperity in the past and they continue to be so in the near and distant future. The concept of a 'Blue Economy' is built on harvesting the seas for sustainable development and to my mind the importance of sea power has never been greater or needing any further emphasis. That said we must also be willing to introspect, innovate and integrate in a rapidly changing world.

I wish today's webinar all success and hope the audience will take part in the proceedings whole-heartedly and contribute to making the idea of sea power central to our national discourse.

Thank you, Śaṃ No Varuṇaḥ. May the ocean God be auspicious unto us and help us in our endeavours.

SECTION 1

Maritime Consciousness for Sea Power – Practitioners' Perspective

Enhancing Maritime Consciousness for Sea Power: A Practitioner's Perspective

Cdr Yogesh Athawale

IHQ MoD (N)

VAdm RB Pandit, Chief of Staff, Western Naval Command, Capt Anand Dixit, President, Indian Maritime Foundation, Capt Kapil Dev Bahl, Chairman, Nautical Institute, India (West), Senior officers of the Indian Navy and Merchant Navy, fellow participants, Ladies and Gentlemen. At the outset, I wish to thank the Western Naval Command and Maritime Warfare Centre, Mumbai, for giving me the opportunity to participate in this important Webinar. I also wish to thank the Chair, Cmde Odakkal Johnson, Director, Maritime History Society, for the kind introduction and inviting me to share my perspective on the subject.

The central theme of today's Webinar is enhancing maritime consciousness. The term consciousness relates to "the state of understanding and realizing something". In our context, it is the understanding and realization of the maritime domain, which comprises about 70% of earth's surface. I will focus my talk on how maritime consciousness played a role in development of sea power in India. I will also attempt to highlight that despite episodic 'sea-blindness' in our history, maritime consciousness continues to underpin India's strategic thinking and informs the development of its naval power.

Let me begin by briefly delving in the past. Today, there is enough evidence to indicate that ancient Indians were 'maritime conscious' and made serious attempts to use the seas, lakes, and rivers to their advantage. Many of you might have read or heard about the work of Mr Sanjeev Sanyal, and his exposition of how the Indian Ocean shaped human history and created a distinct maritime tradition in India.

The development of sea power has broadly corresponded with growth of maritime activity in the seas around the Indian peninsula. A prominent indigenous naval tradition developed with the rise of kingdoms of Kalinga and Chola on the East Coast of India. Prince Vijaya of Kalinga, who was banished by his father with his 700 followers, is said to have founded the Sinhala kingdom in Sri Lanka, in 5th century B.C. The Chola kingdom bloomed as a maritime empire, and at its zenith, its influence extended from the Maldives to the southern coast of China. Similarly, the Pallavas, who were based in present day Tamil Nadu, used Mahabalipuram as a major port to expand their political and cultural influence overseas, notably in Sri Lanka and in South East Asia. The Pandyas and Cheras of South India too had a maritime footprint. Much later, in the medieval period, sea power developed on the Konkan and Malabar coasts, as the sultanates in Gujarat, Ahmednagar and Bijapur competed with local principalities to control the sea trade with West Asia.

As the Age of Exploration dawned, the fame of spices, cotton and gold attracted European adventurers and merchants to India. The Portuguese had the first-mover advantage, but they had to reckon with the indigenous navies on the Malabar and Konkan coasts, who challenged the technologically superior galleons and carracks with smaller but more maneuverable sailing vessels. Later, with the advent of English, French and Dutch East India companies, continental rivalries of Europe manifested in the politics of the Indian Ocean. Gradually, Indian coastal kingdoms got

embroiled in rivalries between contesting European powers and even took advantage of their competing interests. Local principals like Maratha king Shivaji, Marthanda Varma of Travancore and Tipu Sultan of Mysore employed European engineers to develop local shipbuilding, naval artillery, and ordnance manufacturing capabilities.

All in all, it is amply evident that maritime consciousness was integral to Indian civilisation since millennia. When India came under colonial rule, Indians began to find employment in various maritime services raised and operated by the British. As large parts of India were incorporated in the British Empire, many Indians got opportunities to travel across the seas, in diverse professions. Some were employed as sailors (called *lascars*) on military and merchant ships, some went as members of expeditionary armies to other colonies, some travelled as merchants and traders, and a steady trickle of students travelled across the seas to pursue higher studies in England and America.

It would be important to recollect here that the eighteenth and nineteenth centuries saw large migration of indentured labour from India to far flung colonies controlled by Britain and France. Today, the significant Indian diaspora that one finds in East Africa, South Africa, Mauritius, Reunion, Seychelles, Fiji, Trinidad & Tobago, Jamaica, Surinam, Sri Lanka, Malaysia, and Singapore, traces much of its roots to the colonial era migration of Indian labour, which happened entirely over the maritime routes.

The two Opium Wars, (First: 1839–42) (Second: 1856–60), are often referred in Chinese narratives as marking the beginning of their Century of Humiliation. Interestingly, the Opium Wars have an Indian maritime connection. As is commonly known, the Opium Wars were a result of Chinese administrative resistance to large quantities of opium traded by British and Indian merchants. The opium traders transported their cargos from India over the sea routes, to Hong Kong and Canton. The British Expeditionary Forces, which prevailed in the Wars against the Qing dynasty, comprised partly of Indian soldiers. The Opium Wars possibly marked the first instance when Indian troops, mostly from landlocked provinces like Punjab, were transported by the sea routes to fight in a foreign land beyond the Indian Ocean. This phenomenon was to steadily grow and become a major war-winning factor for the Allied Forces in the two World Wars. Possibly, the Embarkation Headquarters at Mumbai, and in Chennai, trace their history to this expeditionary exposure of the Indian Army.

An aside that may be of interest to the audience is that the Regimental insignia of the Punjab Regiment is a naval galley, signifying the role of maritime transportation in their history. The Regiment's motto is *Khushki wa Tari* or *Sthal wa Jal* (which in English translates to “by land or sea”). The insignia was originally awarded to the 2nd Battalion of the Punjab Regiment for overseas campaigns undertaken by the Battalion. This is also true of the Madras Regiment, which participated in many overseas campaigns, including at Reunion, Mauritius, Burma, Afghanistan, and China, all before the First World War. These movements by sea and associated travels developed higher maritime consciousness among Indians, who were exposed to global conditions like never before. This helped dispel superstitious and doctrinaire notions which considered crossing the seas a taboo. The importance of befriending the sea, rather than fearing it, was realised by progressive Indians. Remember the metaphor of “*jahaj bhai*” or “*brotherhood of the boat*”, used by noted author Amitav Ghosh in his *Ibis* trilogy?

It can be argued that this was the early age of globalization, which caught Asian colonies like India in a whirlwind of cultural transformation. An important aspect of this experience was the heightened maritime consciousness, which came to Indians when they were admitted to the modern seagoing services, both in the mercantile marine, and in the fighting arms. British sea power was at its zenith in the early twentieth century, when dreadnoughts and other battleships flying the Union Jack sailed across every ocean of the world. It was said that “*the sun never set on the British Empire*”. It was an empire which was built on the backbone of sea power of which the Royal Indian Marine, and later the Royal Indian Navy were an integral part.

Recently, Cmde Kesnur reminded us in one of his articles that the Royal Indian Navy, being the precursor to today’s Indian Navy, was the crucible in which many young Indian officers and sailors of pre-independence era received their professional baptism. In the Indian merchant marine, the story followed a similar pattern. Indians, who were initially admitted in menial professions, steadily earned the trust of the colonial authorities, and were gradually admitted in supervisory and officer ranks. The process was institutionalised in 1927 by the induction of TS *Dufferin*, as a dedicated Training Ship for the sea services. *Dufferin* provided the professional initiation to many Indian young men who went on to distinguish themselves in the Indian Merchant Marine and Naval Forces. Thus, a modern seafaring tradition was well in place before India won her independence. Speaking of maritime tradition, how many of us have heard of the Erulkar Collection at University of Western Australia? It is named after David Solomon Erulkar, an Indian nationalist of Bene Israeli Jew descent, who perused a long career as a shipping executive. After his death in 1967, Erulkar left behind a treasure trove of rare books, manuscripts, journals, and other materials concerning India’s maritime past, which was a part of his personal collection.

We are yet to fully find out about Erulkar’s legacy in the University Library at Perth, but the fact that this priceless collection found its way to Australia, thousands of nautical miles away from Indian shores, should make us pause and ponder. Was it due to the phenomenon of ‘sea blindness’ implying apathy for maritime matters, or general lack of appreciation of maritime heritage?

Be it as it may, episodic ‘sea blindness’ in India was an exception rather than a rule. This was true even in the early decades after independence, when India was impoverished and had to contend with serious threats across the land borders. Some Indian thinkers, who were acutely mindful of the perils of sea blindness, played an important role in developing maritime consciousness among Indian decision-makers. The pioneering role of Seth Walchand Hirachand in developing indigenous shipping, and shipbuilding, is well known in professional circles. Intellectuals like KM Panikkar and Keshav Vaidya promoted strategic thinking in the maritime realm through their writings, speeches, and public contact. Much later, a senior civil servant, Mr CP Srivastava was the longest serving Secretary General of the International Maritime Organisation and played a key role in strengthening maritime administration in India.

Several Naval sea power advocates have contributed to development of maritime consciousness in India through their public expression. To name a few, writings of Vice Adm Manohar Awati, Vice Adm Mihir Roy, Adm Vishnu Bhagwat, Vice Admiral Premvir Das, R Adm Raja Menon, Adm Arun Prakash, Vice Adm Suresh Bangara, Vice Adm Pradeep Chauhan, Rear

Adm Sudarshan Shrikhande, Cmde Uday Bhaskar, and Cdr Vijay Sakhuja, all former Naval Officers, have been noted in India and abroad.

It is important to bring out here that after independence, Indian Naval thinking experienced competing influences of Western and Eastern schools of thought. The Indian Navy evolved from the former Royal Indian Navy, and many of the pioneers received professional training in the UK. Therefore, in the early years it was natural for Indians to imbibe key ingredients of British thinking on sea power, particularly the ideas of Sir Julian Corbett. Deputation of select officers to overseas Staff and War courses and exercises with advanced navies played its part too. Beginning in the late sixties, as naval hardware from the former Soviet Union was steadily inducted into the Indian Navy; numerous Indian Naval officers received professional education and training in the former USSR. Consequently, Soviet sea power philosophy had a significant impact on Indian strategic thinking.

This synthesis of Western and Eastern thought has shaped a unique ethos of the Indian Navy, which has demonstrated an innate ability to adapt to the prevalent strategic conditions to safeguard India's vital interests at sea.

American thinker RAdm Alfred Thayer Mahan's articulation of the 'Elements of Sea Power' has found resonance in Indian strategic thinking. Dr David Scott, former professor of International Relations at the Brunel University, had argued in 2008 that India's strong maritime strategic drive was inspired by Mahanian ideas. Citing works of post-colonial Indian thinkers like KM Panikkar and Keshav Vaidya, Scott claimed that their thrust on defending the oceanic frontiers, as against coastal defence, was inspired by Mahan's seminal work, *Influence of Sea Power upon History, 1660-1773*. Scott quoted eminent former Indian Naval Chiefs, Flag Officers, as well as political leaders to strengthen his argument that India's quest for 'blue water' Navy was rooted in Mahanian ideas.

Soviet Admiral Sergey Gorshkov also had a deep impact on strategic thinking in India, particularly during the Cold War, when India and the Soviet Union enjoyed close political and military ties. Former Prime Minister of India and Ambassador to Soviet Union, Mr Inder Kumar Gujral, once described Admiral Gorshkov as a 'friend of the Indian Navy' and narrated an anecdote how Admiral Gorshkov convinced him during a personal interaction, that acquisition of nuclear powered submarines was a strategic imperative for India .

These examples highlight how influential global discourse on sea power has impacted upon the evolution of maritime consciousness in India. Evidently, the process of learning from global examples, and applying those lessons to India's strategic environment has continued through the decades.

Even as the Navy remains focused on its primary roles, it has steadfastly supported numerous initiatives to develop maritime consciousness among the common people, particularly the youth. The Navy's proactive support to the Sea Cadet Corps, training provided to school and college students by Naval NCC Units, early investment in a warship design bureau and unflinching support to indigenous shipbuilding and not to forget, promotion of sailing and yachting as adventure sports, has gone a long way in enhancing maritime consciousness in India.

Lastly, all that remains for me to say is that today's India has overcome the episodic sea-blindness of the past and is embarked on a path of maritime resurgence. Developmental initiatives like *Sagarmala* and 'Maritime Agenda' will have to be supported and underwritten by modern, self-reliant sea power. The vision encapsulated in the acronym *SAGAR*, expanding to Security and Growth for All in the Region, holds the promise of promoting maritime consciousness to the larger Indian Ocean Region. The Indian Navy, as the primary manifestation of India's maritime power, will continue to play a key role in realizing this vision.

Developing Maritime Consciousness: Merchant Marine Perspective Indian Offshore Industry

Cmde Kuldip Singh Sandhu (Retd), Master Mariner
Nautical Institute India (West)

Renowned historian KM Panikar once said: “It is the geographical position of India that changes the character of the Indian Ocean”. However, the befitting psyche of sea power consciousness, which contributes to the status of a strong economic power, has not yet been displayed by India despite an enviable geographical position in the IOR. I think you will all agree with me that, Indian offshore is a pearl in the strategic and economic necklace of nation’s maritime collage deserving our utmost attention and firmly embedding it into our sea power consciousness.

Let us start with what are the Indian Offshore assets. We all know that we are a peninsular India with 3.287 m sq km landmass which also contains 608 outlying islands in Bay of Bengal & Arabian sea, 7500 km of coast line, 13 major and 200 minor sea ports. The UNCLOS 82 gave us another 2.02 m sq km of EEZ, by virtue of our continental shelf we have also extended our EEZ by another 1.5 m sq km that is up to 350 nm from the coast. In addition, we also have 75,000 sq km area in Central Indian Ocean basin (CIOB) for deep sea mining which is allotted to us by the International Seabed authority (ISA).

Coming to what are the stakes in the offshore region. We all agree that maritime trade is the backbone of India’s economy with 95% of the volume moved on the Indian bottoms and 70% of value. What are the other major stakes in offshore region? - Oil & natural gas reserves, Fishery resources, Renewable energy resources and deep sea mining resources. Basically, what I am trying to suggest here is that these major stakes need to be harnessed and exploited to the fullest.

When we talk of the oil & natural gas assets, we started in 1889 from Digboi on the land and took the offshore step in 1974. Our total crude oil reserves stood at 594.49 MMT, the estimated reserves offshore stood at 280 MMT which is 47% of total. The largest reserves obviously are on the western offshore & KGB in east. In addition, we have billions of dollars’ worth infrastructure that has been created offshore to harvest Oil and Gas reserves. The Natural gas was discovered in 1990 in Assam & Gujarat. The estimated gas reserves are 1339.57 BCM; with offshore having a share of 63%. The largest reserves are in eastern offshore followed by western offshore. India has produced in 2018-19 32.87 BCM out of which 72.6% came from offshore. We have technically recoverable shale gas reserves of 96 trillion cubic ft, generally available in basins of Cambay, Krishna-Godavari, Kaveri etc.

Next, we have fisheries that VAdm Pandit introduced as blue economy. Fisheries, as we all know, has a direct impact on the socio-economic life of millions of Indian people. It is an important source of employment which also provides food, nutrition & economic prosperity to the fishing community. Offshore marine fisheries resources are spread over 2.02 M sq km of EEZ and 0.53 sq km of continental shelf. And out of total 22.31 MMT tons, 5.31 MMT that is 24% comes from offshore marine sector. And gentlemen, it is a great source of earning for India. In 2019-2020, we earned to the tune of \$ 6.68 billion.

Next, we move on to offshore wind energy, which is a renewable energy i.e. green n clean energy. Presently India is harnessing 32.3 GW from onshore which is 5th largest wind power capacity in the world. India has set target of harnessing 60 GW power generation from offshore & onshore combined by 2022.

Coming to Tidal energy, it is an important driver for low carbon growth and sustainable solution for power. We have about 150 GW of known renewable energy potential. Potential is even more if all sources including tidal, wave, geothermal are mapped and harnessed. A notable comparison is the installed and expected capacity that can be harnessed from offshore resources. The total onshore installed capacity of power generation is 373 GW; and 210 GW more can be harnessed from offshore resources, which is 56%.

The Deep Sea mining, as we all know we have 75,000 sq km area in the central Indian Ocean basin which is rich in poly-metallic nodules resource, estimated potential - 380 MMT; very rich in manganese, nickel, copper, cobalt etc. 10% of poly-metallic nodules is expected to meet countries energy requirement for the next 100 years. This is a very significant statement. ISA feels that unless we harness 3MMT a year, economically it may not be viable.

Post 26/11 maritime governance gained importance. We need structured and coordinated actions between SMP, customs, CG and the Navy. There needs to be presence & patrol missions which are central to the strategy for coastal and offshore security. Force levels of multiple agencies must be commensurate to achieve seamless security in all regions of interest. Adequate air, sea, sub-sea & special task forces have to be created. India's space assets (eye in the sky) will be a great force multiplier for offshore & IOR security.

I will now quickly wind up my presentation. We all agree we are in high stakes with India's offshore region having a great potential for country's economic growth and upliftment of socio-economic standards of the people. It has immense opportunities in many fields of related industry and corresponding employment. It will give fillip to R&D, development of specialised vessels/platforms/equipment, robotics, allied services etc. The list is endless. The challenges will be many in technology & infrastructure and will require adequate force levels and we need to see protection of deep sea eco system. The highest echelons of government must factor & integrate Indian offshore at strategic planning level to harness full potential of offshore resources. We need to start focusing on infinite resources more than the finite for long term sustainability. And finally; serious sea power consciousness for offshore must dawn on every Indian psyche as early as possible.

Developing Maritime Consciousness: Merchant Marine Perspective

Coastal Shipping

Capt Kiran Kamat, Master Mariner
Managing Director, Link Shipping

The development of Coastal Shipping has actually become a necessity primarily to substantially reduce the cost of commodities in the hands of the end user i.e., common man. Although the real active development of coastal shipping took place in the year 1992 when the government set up a working group under the chairmanship of then Director General of Shipping. Unfortunately, the recommendations submitted are far from being implemented due to some very valid and some not so valid reasons. Compared to China, Japan & Europe where nearly 40% of domestic goods are transported by sea, it will be shocking for us to hear that India transports only 7% of the domestic goods despite having nearly 7500 kms of coastline. Just to give you quick numbers, last year Japan transported 360 million tonnes of cargo on its coast and India transported (these are real numbers) 166 million tonnes. It sounds like a big number. But out of this 166 million tonnes, 85% of the cargo comprised of petroleum products, minerals, and bulk commodities. The real goods, day to day goods participated in only 15% of our coastal movement.

It is not rocket science to figure out the reasons why coastal shipping is lagging. We all know why it is lagging. Several studies have been conducted at several levels since, but we are not able to progress further. Ironically, cost of transporting goods by sea in India is greater than that by rail and road. If this scenario remains, there is no future for coastal shipping in India. In the past, several entrepreneurs have entered this field and closed shop after a few years, including ourselves. Sometime within one year because of lopsided policies of the government.

Although average school student knows that cost of transportation by water is by far cheapest compared to any other mode of transportation, then why are we not able to tap this potential? That is the question to be answered. The commodity manufacturers and distributors are profit centers and they will choose any mode of transportation which is cheapest. If the coastal shipping costs are higher than the rail or road, he is not going to send his goods by sea. But who is the true beneficiary of modal shift from land/rail to sea is the public at large which must be looked at by the government? The benefits such as less pollution, decongestion of roads and rail networks, lesser accidents, reduction in insurance cost, reduction in transit damage to goods etc. But these benefits do not put money in the pockets of goods manufacturers; these are benefits for public-at-large. So, the government must factor in the greater benefits by way of incentives. The cost of sea transportation can be reduced further by some measures which can be called as low hanging fruits. As per the Customs Act 1962 every coastal vessel and every coastal cargo must comply with provisions under chapter 12, which effectively mean that same rules apply to imported/exported goods in India. This is a bottleneck. Interestingly, the same chapter, a small para Section 98A I will read it you, it says “Power to relax customs rules. If the Central Government is satisfied that it is necessary in the public interest so to do it may, by notification in the Official Gazette, exempt generally, either absolutely or subject to such conditions as may be specified in the notification, coastal goods or vessels carrying coastal goods from all or any of the provisions of this Chapter”. Which means the power is vested in the hands of the government to exempt coastal shipping from

the so-called draconian rules which are necessary to be applied on imported and exported goods. But no such relaxation has come forth. This provision of the customs act alone adds substantial cost to sea transportation and therefore land/rail transportation becomes effectively cheaper. The same restrictive practice goes in Immigration Rules. Change of crew on coastal vessel is subjected to same regulation as those applied to crew of foreign going vessels. When any domestic passenger or domestic aircraft is flying between Indian airports, such draconian rules are not applicable. Why does coastal shipping suffer such a step motherly treatment??

There have been several business casualties in coastal shipping in the last 20 years. It is time the government appointed a committee to analyse the reasons for such closures. These are questions to be explored that will give us some answers how we can progress with coastal shipping. India indeed has a huge potential for coastal shipping if only conducive business environment is created. There is no dearth of investment. Any entrepreneur will put his money in if there is profit to be made and in the long run the country benefits too.

Now coming to some statistical information, rail and road at present account for 57% and 30% respectively of overall domestic cargo movement in India; key reasons for low share of coastal shipping presently can be attributed to concessional freight for railways (now railways freight is purposely kept low, so-called in the interest of the country, but it is actually going against coastal shipping), absence of subsidized financing and high operating costs for coastal shipping. However, coastal shipping confers many benefits that makes it important to promote it as preferred mode of transport along specific coastal routes; for coastal shipping to grow issues such as route development, capacity additions and incentives for shippers and service providers must be addressed. Earlier I mentioned to you about the power in the hands of the government to relax the customs regulations. Interestingly, such a thing did happen briefly. The customs authorities actually relaxed the rules vide a notification 43/1997 dated 11 Sept 1997 applicable to coastal shipping and momentarily there was a widespread joy among the shipping fraternity. By virtue of this circular, the government deleted a major portion of provisions in Chapter XII of the customs Act. But within 7 days after this notification, a fresh circular was issued stating conditions for relaxation of customs rules and it killed the essence of relaxation. The circular stated that to enjoy free movement of goods along the coast of India, the cargo must not move within the customs notified area. Now what does it mean? As we all are aware that every port, major or minor, falls under the customs notified area. There is no port which is not in customs notified area.

We are all aware that all major and minor ports fall under the customs notification area. This means that for the coastal cargo to move unrestricted, we must build exclusive coastal ports and the ball was thrown back from the MOF to MOS. The trade leaders at that time indicated that such infrastructure can be created within existing port infrastructure, but no progress has been made so far. The mantra in the MOS is “Modal Shift from Rail/Road to Sea”. This means that sea transport must compete with other modes of transport. This also means that there must be a level playing field between all the modes of transportation. Railways enjoy a government subsidy to keep the rail freight low. This is obviously done in the interest of the country. Then the same subsidy must be awarded to coastal shipping otherwise there is no fair competition. Every ship must undergo a rigorous inspection regime as per international norms. But the same regime does not apply to the road transport sector. Road transport is habitually known to overload the vehicles which result in

rapid deterioration of roads not to mention poor condition of the vehicles which result in several fatal road accidents.

As things stand today, coastal shipping can have a future in India if there is parity in working conditions of all the modes of transport.

Developing Maritime Outlook to Safeguard Offshore National Interests: Coast Guard Perspective

DIG Aashish Mehrotra

Indian Coast Guard

When I first analysed the topic ‘*developing maritime outlook to safeguard offshore national interests*’ to give it the run it deserves, two thoughts stuck my mind: one developing the Maritime Outlook, developing being the qualifying word, understandably something already exists which must be built upon. Secondly, Offshore National Interests. Where have we identified and quantified these interests? So primarily the talk would aim at identifying these two entities and then deliberating on the interface they require to align with each other.

A close analysis of the ‘National Maritime Outlook’ reveals that it could be easily bifurcated into two streams, one the ‘socio-economic’ and the other ‘security’ focussed. Accordingly, two separate set of frameworks seem to have originated during the midst of the first decade of the millennium, the Indian Maritime Doctrine and the Indian Maritime Military Strategy that focussed on the security aspect and the National Maritime Development Programme that focussed on the development of the Port infrastructure so that offshore resources could be delivered inland. The estimated presence of about 18, 815 MMT of hydrocarbon resources in the Indian Offshore and the discovery of the world’s 2nd largest gas hydrates further catapulted the economic maritime outlook.

The then national maritime outlook which was conceived as an instrument of providing conducive environment to the offshore exploration and production was later tweaked to holistically address the maritime outlook by introduction of the Indian Maritime Security Strategy and the SAGARMALA project in 2015 with an intent to provide an environment conducive for the unhindered conduct of shipping, fishing, offshore exploration and other maritime interests that contribute vitally to economic growth and national development¹ while maintaining the balance between the ‘bill and the bullet’.

Moving onto the other qualifier “Offshore National Interests”; this again could be bifurcated into the one seen through the prism of security and the other that seems to the naked eye. As per the Indian Maritime Security Strategy, published by Indian Navy, India’s maritime interests have been summarised as, Protection of India’s sovereignty and territorial integrity against threats in the maritime environment, Promoting safety and security of Indian citizens, shipping, fishing, trade, energy supply, assets and resources in the maritime domain, Pursuing peace, stability and security in India’s maritime zones, maritime neighbourhood and other areas of maritime interest¹ and preserving and projecting other national interests in the maritime dimension.¹

However, a clear glass view, highlights the Indian maritime interest in sustainable management and utilisation of ocean’s resources for food security, generating livelihoods and

¹ The Indian Navy’s Vision Statement 2014 and Guiding Principles, Ensuring Secure Seas: Indian Maritime Security Strategy

building resilience against climate change and its associated environment challenges. It also includes management of seabed resources, maritime tourism (cruise industry) and enforcement of the rule of International Law.

Having discovered the mismatch in the Outlook and ‘perceived’ National Offshore Interest within the maritime domain between the two schools of thought (security & economic), let us try to list them side by side.

Talking about the maritime outlook, the security perspective is based on the military strategy of “sea dominance” while the socioeconomic perspective focuses on the development of inshore infrastructure to attract maritime trade. In the same way, the perceived national security interests are more inclined to protection from threat to sovereignty and territorial integrity, to pursue peace, stability and security, while the economic parlance is inclined towards management of ocean resources, food resources, food security, generating livelihood, resilience against climate change and environment protection.

Though being uniformed personnel, I would like to presume that the socio-economic factors and security issues are subsumed in each other, as only secure seas could lead to economic prosperity. However, in all permutations that would require the national policy makers also to think of facing the sea as against the much-publicised landward approach to the issues originating / residing at sea. Another factor that cannot be ignored is the Global marine environment which is vital for the balance of the entire ecosystem and is generally ignored by the security analysts.

Developing the Outlook. While identifying these differences in approach, I would like to start with the term ‘Blue Economy’, the reason being the all-encompassing nature of the term which includes the range of economic sectors and related policies that together determine whether the use of oceanic resources is sustainable². Thus, to develop the maritime outlook, it is vital to understand and better manage the many aspects of oceanic sustainability, ranging from sustainable fisheries to ecosystem health to pollution. The blue economy has diverse components, including established traditional ocean industries such as fisheries, tourism, and maritime transport, but also new and emerging activities, such as offshore renewable energy, aquaculture, seabed extractive activities, and marine biotechnology and bioprospecting. Numerous other services are also provided by ocean ecosystems like production of 50~80% of the oxygen on earth, carbon sequestration, coastal protection, and the existence of biodiversity, which though are not commercially harvested, define the very existence of humanity. Let us now take a deeper look to understand these components in the Indian perspective to recommend maritime outlook for safeguarding the perceived offshore interests while achieving the Maritime Development Goals.

First comes Fisheries. An immediate concern is sustainable management of our fisheries resources, as per data available on the website of Marine Products Export Development Authority (MPEDA), Ministry of Commerce and Industry; the issue of illegal, unreported, and unregulated (IUU) fishing in world fisheries is of serious and increasing concern. The root cause of IUU fishing has been identified as the lack of effective flag State control. If IUU fishing is not curbed, and if IUU fishers target vulnerable stocks that are subject to strict management controls, efforts to rebuild those stocks to healthy levels will not be achieved. Fish landings in India have more than doubled

² The Potential of Blue Economy, Report by World Bank Group, UNO

during the period 2005 ~ 2018³ and the Indian waters hold more potential. However, if the increasing number of fishing boats competitively operating in the same coastal waters is not regulated, we would experience problems in sustaining whatever remains of the fish stock in territorial waters. Increasing number of mechanised fishing boats and trawlers are now moving farther from the coast than in previous years in search of good catch. Management and control of these fishing vessels that are presently operating in pockets over deeper fishing grounds is considered necessary to sustainably utilise the untapped offshore resources for maintaining the livelihood of fishermen as well as reviving the coastal waters for traditional fishermen. Deep sea fishing has to be made more lucrative for the fishermen supported by the Government onshore. One such scheme is the Deep Sea Fishing Vessel - Palk Bay trawl fishing diversification, where Govt. provides 70% of the total cost (max of 56 lacs) of a deep sea fishing vessel⁴. Lessons could also be derived from the Sri Lankan model of deep-sea tuna fisheries industry which operates not only at the fringes of Sri Lankan EEZ but also at high seas in the southern oceans. It is notable that as per the data available on Indian Ocean Tuna Commission website, the number of Sri Lankan long liners authorised to fish in the Indian Ocean region (165) is far more than India (04), surprisingly Indonesia tops the authorisation list (324)⁵. The data itself is indicative of the opportunity that lies in front of us awaiting to be tapped judiciously. To an extent the GoI has been engaging itself under the umbrella of ‘Neel Kranti’ mission and has already drafted a comprehensive and integrated ‘National Fisheries Policy, 2020’⁶. However, it remains to be seen how aligned the policy will be with other components of national offshore interests, like safety and security.

Seabed Mining. The next issue is the mining of sea-bed resources; India is the first country to have received the status of a pioneer investor in 1987 and was allocated an exclusive area in Central Indian Ocean Basin by United Nations (UN) International Seabed Authority (ISA) for exploration and utilization of polymetallic nodules. India is among the top countries implementing a long-term programme on exploration and utilization of polymetallic nodules through the Ministry of Earth Science of the allocation made in 1987, India retained an area of 75,000 sq km. It is estimated that there are 380 million metric tonnes of polymetallic nodules in the retained area of the CIOB, reason enough for the Government’s ambition to harvest them.

Although, National Institute of Ocean Technology (NIOT) has been tasked to develop technology for mining and pumping the nodules to the surface, a deep-sea environment experiment conducted by National Institute of Oceanography (NIO) shows that the present procedures of extraction of the nodules could have detrimental environmental impact. Moreover, the technology also needs to be made economically viable. As the land resources are limited and the metals resident in the nodules are vital for development, the national outlook could focus on collaborating with international scientific community to develop technology for minimizing the environmental impact while making the extraction economically viable. If we succeeded, this would lead to self-reliance in metal production and safeguard our national interest which is heavily tilted by our reliance on foreign ore for metal production.

³ https://mpeda.gov.in/MPEDA/product_exports.php#

⁴ <https://www.fisheries.tn.gov.in/StartABusiness>

⁵ <https://iotc.org/vessels/current>

⁶ by integrating the National Policy on Marine Fisheries, 2017 (NPMF), the Draft National Inland Fisheries and Aquaculture Policy (NIFAP) and the Draft National Mariculture Policy (NMP) along with the elements of Post-Harvest. <https://pib.gov.in/PressReleaselframePage.aspx?PRID=1654543>

Renewable Energy. Another offshore national interest is the exploitation of renewable energy, which is abundant and omnipresent offshore. Offshore wind and solar power offer a reasonable alternative. Absence of any obstruction in the sea offers much better quality of exposure and its conversion to electrical energy. Taking the lead are the offshore wind farms, comprising wind turbines which are much larger in size (in range of 5 to 10 MW per turbine) as against 2-3 MW of an onshore wind turbine. The Ministry of New and Renewable Energy is already in the process of developing offshore wind power projects off Gujarat and Tamil Nadu and has set a target of 5 GW of offshore wind installations by 2022 and 30 GW by 2030 which has been issued to give confidence to the project developers in India market. Moreover, to reduce the lifecycle cost of the windmills the concept of floating windmills is being explored which could be moored in position. The projects when implemented; would also provide a boost to our offshore shipping industry as more and more offshore support vessels viz workboats, crew transfer vessels (CTVS), hydrographic survey, subsea repair and maintenance, environmental and geophysical survey services would be required providing an upswing to the Indian Shipbuilding as well as providing better opportunities for our seafarers near home. The Government seems to have realised the upcoming demands and therefore is planning to make it easier for families of fishermen to be able to work as seafarers with adequate training.⁷ Additionally, our ship building and maintenance capabilities have to be proportionally developed so that the infrastructure is in place for exploiting the wind energy. The integration of maritime with the new and renewable energy development would thus hold the key to safeguarding the national energy interests.

IMO 2020. Next comes the most important and globally discussed issue of climate change and measures to protect the environment. As per open-source data, India is responsible for 6% of the global CO₂ emissions and as a signatory to the Paris climate treaty, India plans to reduce its carbon emission intensity - emission per unit of GDP - by 33-35% from 2005 levels over 15 years. Most of these emissions originate onshore, however, India, as an International Maritime Organisation Member State, is also committed to adhere to the IMO 2020, emission norms and has to ensure that flagged vessels and vessels plying in its waters comply to bunker fuel regulations, wherein, since 1st Jan 2020, the maximum fuel oil sulphur limit of 3.5 weight percent (wt%) has fallen to 0.5 wt%. DG shipping has instituted guidelines which were promulgated in Aug 2019 vide an engineering circular and lays down the procedure for Port State Control. It is notable that as per the norms, non-compliant fuel (which is cheaper) could only be used if an Exhaust Gas Cleaning System (EGCS / Scrubber) is fitted and functional. No exceptions are provided for use of non-compliant fuel even for emergency power generation/ propulsion. It would thus be a herculean task to check compliance by all vessels plying in the Indian waters, whether visiting Indian ports or not.

World over countries are resorting to innovative measures to ensure compliance. With the aim of tightening control over ship emissions in French waters, the Ministry of the Sea is deploying a sniffer drone in the strait of Northern France. If the emissions measurement taken by the drone reveals a breach in the concentration limit, a subsequent ship inspection could be undertaken at the next port of call. Given the gravity of the issue, existing compliance levels and upcoming tighter norms for GreenHouse Gas (GHG) emissions by ships, a national monitoring system needs to be devised in India to ensure 'Pollution Under Control' (PUC) certification of the vessels operating at

⁷ <https://economictimes.indiatimes.com/jobs/government-plans-to-train-fishermen-coastal-people-for-seafarer-jobs-minister/articleshow/69844541.cms?from=mdr>

sea outside major port limits or coasting or operating from minor ports. National legislation will also be required to be modified to penalise the offenders proportional to the carbon emission compromised. Thus, development of resources to control maritime emissions and preserve the marine environment need to be accorded priority to meet deadlines that are approaching us faster than before.

Maritime Technologies. Marine research must also play its part in producing a comprehensive understanding of the processes in the sea and its surroundings, which have a global impact. Based on this, it is imperative that technologies be developed for the use of the biotic and abiotic resources of the seas in keeping with the principles of sustainability. In the future, maritime technologies will continue to become increasingly important, be it for protecting the environment, tackling climate change or harvesting marine resources. In addition to shipbuilding, marine environmental engineering, polar engineering and offshore engineering for the extraction of oil and gas, harvesting of biological marine resources, extraction of mineral resources on the seabed and the generation of energy at sea are key cutting-edge fields. As highlighted previously, offshore wind power is a maritime growth market for energy, climate change mitigation and employment. This also includes the establishment of energy grids across seas⁸. In this way, it will be possible to encourage international electricity trading, which will smoothen fluctuating renewable energy sources. This will also significantly reduce the demand for relatively expensive storage capacities. Further, the development of active pharmaceutical ingredients from marine microorganisms, maritime control and safety systems, oil spill response equipment, call for the development of technological competencies. Thus, the developing maritime outlook should also be inclusive of a ‘Maritime Technologies Growth Plan’.

Maritime Tourism. Prior to the declaration of the COVID-19 pandemic, tourism was fast becoming the largest global business, employing 1 out of every 11 persons globally. Our pristine islands in the Lakswadweep and the Andaman & Nicobar group hold an immense potential for growth of maritime tourism. The biodiversity of the islands and the intact landscape aptly provide the drivers for dive tourism, cruises, ecotourism, and recreational fishing operations. Sustainable island-based maritime tourism can thus promote conservation of marine environment and species while generating income for local communities towards inclusive growth. In addition, the sustainable development fostered by the tourism sector can trigger similar developments in other economic activities and help protect the natural and cultural resources of islands. In this context, while island tourism is developed as a contributor to our GDP, thus qualifying as a national offshore interest, the maritime tourism sector, in-particular the ones based at L&M and A&N should also reflect in our maritime offshore outlook.

Maritime Infrastructure Development. Benefitting from the economic opportunities arising from the oceans, including trade, tourism, and fisheries requires efforts to address inter-island/domestic/international shipping connectivity requirements, including their incorporation into the broader regional and international maritime transport connectivity and access agenda. While the connectivity issues for the offshore islands, being designated for maritime tourism are being specifically addressed by the Island Development Authority, the mainland efforts to develop

⁸ Singapore has already entered into a deal with Australia to be supplied renewable energy through 4500Kms sea cable, <https://www.rechargenews.com/transition/australia-to-fast-track-worlds-largest-solar-battery-project-with-grid-link-to-singapore/2-1-849688>, ASEAN Power Grid.

maritime infrastructure including that for promoting coastal tourism is embedded in the SAGARMALA project and the INLAND waterways Jal Marg Vikas Project (from Varanasi to Haldia). The overall impact of these projects, when completed, will be felt offshore with increased activity in terms of cargo and tourists transiting through the seas to access the coastal touch points. Thus, the maritime safety and security issues such as enhancement of our offshore maritime SAR capabilities, specifically mass rescue capabilities, marine pollution response capabilities, marine traffic monitoring and control, de-conflicting of fishing grounds with shipping routes and maritime law enforcement capabilities need to be concurrently enhanced and must be dovetailed into the project outlook.

Before I conclude, I would like to mention that the spectrum of offshore issues is very broad ranging from the security of offshore development areas (both hydrocarbon and renewable) to defining the safety zones, traffic separation schemes, fishing havens etc. They all need to be considered in developing 'Maritime Outlook' for safeguarding and promoting our national interest. In my opinion the developing maritime outlook should include visible strengthening of national ocean awareness, completion of the marine legal system, the basic formulation and implementation of the integrated maritime management system, visible strengthening of the capacity of ocean industries and marine science and technology, protecting marine ecology, developing marine resources and promoting marine economic development; and doing all this while ensuring environmental sustainability of the oceans and coastal areas.

As a practitioner, I am aware that most of these components when translated into policy would align with the ICG duties and functions to protect the maritime and other national interests of India in the Maritime Zones of India and we have been evolving to deal with these new challenges. It is evident from the wish list that the issues highlighted above, though maritime, pertain to different Nodal Ministries some of which lack maritime inclination and the coordination amongst different nodes causes undue delays. It could therefore be prudent to heed to the calls to form a maritime body preferably under the 'Niti Aayog' to develop the maritime outlook, which is integrated with the national outlook, for inclusive growth in a sustainable manner.

We, as a nation, have made some significant strides to shake-off the old remnants of sea translucence and seem to be confident, this resurgence is well evident in the vision of Sagarmala, Neel Kranti, inland waterways project and SAGAR mission. We need to maintain the momentum and collectively identify and quantify national offshore interests and then formulate an integrated outlook that not only yields sustainable growth for the marine ecology and Coastal State population but also ensures maritime safety, security and the protection of the coastal regions and infrastructure.

Challenges in Maritime Research: An Academic Viewpoint

Cdr Arnab Das (Retd), PhD

Founder and Director, Maritime Research Centre

The topic given to me is challenges in maritime research: an academic viewpoint. I will also add the practitioner's viewpoint here because I have been a practitioner myself, probably I have a twin profile of being a practitioner and an academic or researcher. I will touch upon these points: Indo-Pacific Strategic Space (basically trying to connect geopolitical reality today), Indian Ocean Region (IOR) and its specifics and Underwater Domain Awareness (UDA) which has been my focus area. I would try to look at maritime research from UDA perspective. And then, look at the Challenges and Opportunities and then the Way ahead.

In the 21st century, we have a new global order. Most of the maritime operations are all focused or concentrated in the tropical waters, whether it is the South China Sea (SCS) or the IOR. The strategic relevance of the IOR is very well-known to this audience, just for the sake of continuity I will talk about a few things; Sea security and Trade route. Politically it is the most volatile, so it brings a whole lot of responsibility from the maritime forces. But this is also creating a lot of interest among the extra regional powers, so there is a lot of meddling by the extra-regional powers and the domestic politics of the IOR particularly and even to some extent the South China Sea. Military Intervention has become the norm now, for everything there is an intervention and the most important thing for us to understand is that there is a tremendous focus on submarine operations. Even pre-modern states or new developing countries e.g. Burma wants to operate submarines. People in the audience know that submarine operation is not that simple a thing. Let us talk about the Hardware vs Software issues, that is the crux of the maritime research which I will cover.

Indo-Pacific Strategic Space (IPSS), everyone understands, but the most important aspect of the IPSS is the littoral waters of the Indian and Pacific Ocean. That brings a tremendous kind of uniqueness; we must appreciate that the tropical waters have a significant impact on Sonar performance. The degradation of Sonar performance vis-à-vis a temperate or polar water (we are all aware of the typical underwater Sonar development happened in the Greenland-Iceland-UK belt). With all the work that the Americans and Russians did, a sonar that gave you good performance; the same Sonar when deployed in tropical waters of the Indian Ocean or similar waters, the performance degradation is of order of 70-80% (please mark my words). What does this translate?

We are talking about that much more asset deployment for the same job. I am not just talking about the military; even for blue economy monitoring, for environment monitoring or for disaster management, the same rule applies. So, the asset deployment in tropical waters is quite different. We need to keep that in mind.

We will just talk about the Indo-Pacific strategic construct. QUAD has been formulated and many strategists believe that it is a counter to China. What is the evolution of QUAD? There has been forward and backward movement, but what we need to look at (from Indian perspective and

India has been given centrality in the Indo-Pacific construct), but there is the Indo-China relation which has its own implication on this. But we must not forget the 'Indo' part in the Indo-Pacific. We must do the capacity building in a way that we are able to first identify what are the challenges and opportunities and then look at it differently. The moment we talk about something, we talk of importing technology, but does that technology work in our waters? I just gave you an example when there is 70-80% degradation across (not just for military but all the applications).

You all know the uniqueness of the IOR and the unique position we have in the IOR. Just to put that into perspective; most of the countries in the IOR are pre-modern states with not-so mature govt structure (what I mean by that is the strategic vision, we have talked about a lot of maritime vision today) But the strategic vision has not come up to a level where we can optimally utilize all our resources, whether it is human resource or anything else we can talk about. Environmentally also, we are looking at tremendous maritime development. But unless we keep a track of the sustainability of it (if you follow the Kuznet's Curve, we are still on the first dotted line). Unless we look at the marine environment in a very comprehensive perspective, we will never address and in our evolution, we will find that we need to go back and correct certain things.

Today, I think the understanding is enough and the research inputs can clearly give us a way forward. Now these binaries, whether it is development vs. environment or security vs. environment or security vs. development will all continue till we continue our fragmented approach. Every stakeholder is on his own, he is not talked to by anybody (turf war exists). We must understand the post-cold war era in terms of Underwater Technology. In the cold war period, there was significant thrust on underwater technology development or R&D. We did achieve significant success in that part. But the aspect that we need to be noticeably clear about is that development was for the superpowers where theatre of operation was the temperate waters or polar waters, i.e. Greenland-Iceland-UK Belt. But the conditions are totally different in the IOR. It is extremely easy for the west to export whatever they developed during that time to us and we are happily taking it. Hardware is fine, but there must be indigenous effort to understand our conditions. The distinction between hardware and software is becoming clearer and a lot more is being taken care of by the software part of it. There is a tremendous opportunity for us to invest in our R&D effort by which I specifically mean field experiments, site specific field experimental R&D. Technology challenges I have already talked about. The sonar performance is so much limited. In addition, this region turns out to invest heavily in hardware or tremendous underwater hardware, with very little effort on indigenous development. India has no option I think but to take the lead in the IOR.

When I talk about sustainability, these things have become common sight. The first is a 40 feet Blue whale, south of Mumbai, found in May 2015. The second is a 50 feet Bryde's whale in Karwar in Sept 2016. Then we had 90 pilotless whales stranded off the coast of Tuticorin. The first two, I have evaluated and attributed to the anti-piracy operation. So, even when we do any policy initiative, we must have a more comprehensive view. I am not a showstopper. I am not here to say do not do this and do not do that. My only point is that with better awareness we can navigate development or security much better through the sustainability requirements. This is what we must understand and that is why we require UDA.

To give you another aspect of this; we had the erstwhile INS Chakra, not the present one. In 1988 when Chakra came to India and there was an operation, it sat down in position on the East

Coast and the complete sonar screen got blanked out. They had a brainstorming session, and it came out that they were sitting atop a snapping shrimp bed. Snapping Shrimp generates an extremely high sound intensity of the order of 200db reference 1 micro pascal and the biggest mammal, one blue whale generates 196. A snapping shrimp bed has millions of shrimps. And their frequency band is 3-15 KHz. Just to take you back to the American nuclear submarine deployment; when Nautilus was supposed to be deployed in 1952, the Scripps institute in 1946 did a snapping shrimp mapping of the entire world because strategic submarines are not for your own waters but beyond your shore. I do want to remind you that this is much easier to do. The problem is who takes this up? I want to raise this issue. When we think of a new India, then we must do things differently. What got us here is not going to take us beyond.

We have a Military Maritime Strategy before we have a comprehensive maritime strategy. I will not go into the history of it or how it happened. I used to attend a lot of strategic discussions in Singapore; people asked me “is India an aggressive nation that declares its military maritime strategy before it declares its comprehensive maritime strategy?” The multiple components of the maritime sector will not come together unless we have an overarching grand maritime strategy. In the last decade or so, there has been a tremendous push. I do not think anyone doubts that. I have listed them down. But we need to identify specific capacity building that we need to be talking about. I will push for the UDA. The ‘MDA’ word became sought after (I call it an event-driven thing) after the 9/11 as the American establishment pushed for it and then in India, it was 26/11. If you go through the 2016 paper on MDA: myth vs. reality by Cdr Steven Boraz; it is noticeably clear that even in the American establishment, MDA has remained two things. One is largely security driven (I think completely security driven) so it almost negates the penetration into other stakeholders for obvious reasons (I will not get into that). The second aspect is that the resources will always be limited, so it has largely remained a surface concept. There is hardly any penetration in the underwater domain even in the US. Therefore, there is a requirement to rethink and relook at things.

Just to elaborate on what MRC has been pushing and talking about regarding UDA. Stakeholders are well known; defence, security, BE entities, environmental regulators, disaster management authorities, science and technology. To quickly give you an overview of our offensive and defensive requirement of being able to detect any surface intrusion; then we had this 26/11 incident but are the terrorists going to come by surface craft is the question I want to put here? Also, we are looking at large scale migration and there are a lot of things required here. There is much AI and data science capabilities available, but the problem is the data to be fed.

In terms of Blue Economy, my previous speaker had very nicely talked about IUU fishing. I want to just add that there is a Colorado University research that says since 1996, the global fish stock is on a decline. But contrary to that, in many parts of the world (I do not want to single out India and IOR) the by-catch is of the order of 80%. Thus, on one hand, the resources are depleting and on the other end we are wasting. And all this regulation can only be done with UDA and using technology. Fish finding sonars are so easily available. There are other aspects like an unorganized fishing sector in India etc. so bigger investment in technologies is not possible. But as a nation I think we need to look at it differently and take this forward. We have talked about undersea mapping, deep sea mining etc. There are many aspects; if we want to take this forward for a safe,

secure, sustainable model, we need to focus on UDA. In terms of UDA and Environment, I already talked about the number of strandings that have taken place. With a better system, we can minimize the loss of life and property. Science and Technology and AI will be big players that we should be looking at.

Just to elaborate on the whole thing, many applications can be developed such as Underwater Radiated Noise (URN) management. There is an acoustic stealth requirement for the Navy; there is acoustic habitat degradation requirement for sustainable growth; ship designers and ship builders also have their requirements. Therefore, if we come together, a lot more right from policy, technology, and innovation to human resource, we can address this very effectively. The demographic advantage or disadvantage that we have can be used where students and young professionals can choose and take up projects and they will know how and to whom their project is relevant and the opportunity it will create. Similarly the thing of sediment classification, inland water transport, navigable waters or port development and water resource management are a few areas.

We have developed in terms of getting AIS data giving us the shipping traffic. We have converted into underwater low frequency ambient noise and can be used for submarine deployment, passive sonar deployment or marine conservation, whale stranding etc. This also got us a global innovation challenge (Narwhal Challenge). These are the various 3D maps and there is a whole of data analysis that we do. This is the complete mapping of the underwater conditions which can give us a lot of leverage. I have spoken about snapping shrimps, so we have created these images where we can identify snapping shrimps' habitats and then can give you a clear understanding of what the soundscape is in that frequency.

SECTION 2

Enhancing Maritime Consciousness – Policy and Management Issues

Raising Maritime Consciousness – A Need for Concerted Approach

Dr. Malini Shankar, IAS (Retd)

Vice Chancellor, Indian Maritime University

Sea power is highly versatile and extensive. It can isolate and support wartime strategies and tactics on land. It could simply be a means to signal, in quite visible ways, a state's political mood, will or preferences⁹. Looking back at history, we realise that nations manifested power through the seas. The role of maritime supremacy is once again being realised as the key to global power. China's assertive stance in the Indo-Pacific region is part of a larger strategic design aimed at shaping the globe through domination of the maritime domain. This underlines the importance of a strong maritime policy and capabilities to strengthen our policy objectives, to protect our global interests and to exercise influence in its area of interest¹⁰.

Soon after 26/11, the Indian Navy launched the Information Management and Analysis Centre (IMAC) in Gurugram. Jointly administered by the Indian Navy and Indian Coast Guard, its specific task is to enhance India's National Maritime Domain awareness by tracking fishing boats and commercial vessels near India's coast using data feed from space-based and terrestrial sensors as well as from other naval sources¹¹. The Information Fusion Centre-Indian Ocean Region (IFC-IOR) at Gurugram, Haryana, that was inaugurated in December 2018 further serves to enhance international Maritime Domain Awareness in the Indian Ocean.

By way of highlighting instances of cooperation between the Indian Navy and Merchant Navy, I would like to cite the following: -

- Development of National Automatic Identification System (NAIS) jointly by the Navy, DGS and others.
- Indian Naval vessel escort to Indian merchant vessels and other foreign vessels carrying Indian cargo in piracy infested waters, off the coast of Somalia, since 2008.
- Long range Identification and Tracking (LRIT) and International Code for Security of Ports and Ships (ISPS code).
- Post the collision of MSC Chitra and Khalija 3 on 7th August 2010, naval mine sweepers clearing JNPT channel.
- Assistance of the Navy in re-floating MV Wisdom after grounding – 11 June 2011.
- Rescue of crew mobbers by naval Sea King helicopters.

⁹ Zorawar Daulet Singh, in his article on "Foreign Policy and Sea Power - India's Maritime Role Flux":

¹⁰ Commodore Anil Jai Singh, "The Indian Navy's strategic outreach and how India can tackle global maritime challenges", Financial Express, March 5, 2019

¹¹ <https://www.orfonline.org/expert-speak/sense-for-sensibility-maritime-domain-awareness-through-the-information-fusion-centre-indian-ocean-region-ifc-ior-60811/>

Despite the hoary maritime past and despite the impressive economic growth witnessed in the last two decades, Indian commercial tonnage has remained stagnant even as our participation in the global seafarers' community has multiplied. The key question I would like to raise in this context, from the viewpoint of the Merchant Navy is: Are we leveraging our sea power sufficiently? I will try to break this down in 4 segments.

1. *What is the level of technological and human resource capability among stakeholders, and how can it be enhanced?*

The Indian navy produces some of the best hydrographers in the country. This knowledge is limited to naval officers. We can consider introducing a course in IMU on hydrography with Naval Hydrographers who are the sole experts in this sector.

We can explore a spectrum of training programmes and courses for career progression in commercial shipping – chartering, insurance, shipping & port management to name a few. The IMU is currently in talks with Coast Guard for a range of training/ regular courses

2. *How do we enhance the level of cooperation and partnership between the actors in the context of maritime security?*

Post the 9/11 event, there was a lurking fear that terrorists may hijack a merchant ship and attack Mumbai high assets. Since the vessels were allowed to pass close to Bombay High, the response time with the Navy would not have been adequate. Hence, recommended shipping routes were notified by DGS to keep the merchant vessels track a safe distance from Mumbai high to address naval concerns.

Further cooperation is possible in several other areas. Fishing lanes need to be demarcated from shipping lanes. The south west coast of India sees one of the highest densities of shipping traffic, and there have been recent incidents involving fishing boats and merchant shipping boats. This is also the region with myriad fishing boats and trawlers criss-crossing the waters and venturing out to high seas. Demarcating lanes for fishing would not only help in preventing incidents, but also enhance the exchange of information flow from the perspective of security.

Rescue operations at sea have been a well-coordinated effort in the past. However, there is a huge opportunity for collaboration in salvage operations. Normally, the ship owner is covered by P&I Club for wreck removal but more often than not the help is delayed and cannot prevent damage on the coast. Expertise in salvage rests with international firms, and we need to reduce dependence on foreign salvage companies. The DGS, DGLL and offshore agencies like ONGC could do with support in this aspect. It is time to think of a concerted effort to establish an Indian entity with the highest level of expertise in salvage operations.

3. *Is there space and scope for Merchant Navy to enhance collaboration with Indian Navy?*

We may recall the ship collision incident near the Ennore Port (Chennai) in January 2017. The collision led to oil spill which called for intense cooperation between various stakeholders

related to shipping. The front-end operations were led by the Indian Coast Guard and the back-end negotiations (with P & I Club, government entities, petroleum companies, civil society groups that represented those who had lost livelihood etc.) were led by the DG Shipping. The negotiation exercise resulted in considerable compensation by the insurers to the Government – the first such successful negotiation for India. One of the observations from that exercise was that the coordination needs to be more robust. For instance, we found that SoPs were not readily available or understood by all stakeholders, we lost time in retrieving and acquiring equipment, and there had been no joint drills in the recent past.

More recently, there have been instances of vessels carrying sanctioned cargo. There is a need felt to jointly assess and identify flags that are suboptimal and pose a risk to the Indian coast (flags that have untrained crew, no endorsements, unqualified for discharging cargo, loading cargo). The responsibilities of assessing security go beyond the scope of any single agency; the authority of DG Shipping is limited to Port State Control. SoPs may need to be drafted in mutual consultation for declaring manifest prior to arrival at port in the interest of maritime security.

Another area of possible collaboration pertains to the issue of Floating Armouries. DG Shipping has flagged the issue in the meetings with the International Maritime Organisation, London. These are private, unregulated vessels offering armed protection to ships, mostly registered in countries like Mongolia. The objective behind the initiative of DG Shipping is to formalise regulation of these armouries and thereby protect the Indian waters.

4. *Can we contribute our might to increasing India's "soft power"?*

From the viewpoint of educational institution, we need to encourage the institution of scholarships for students and facilitate the exchange of faculty between nations. We can also identify research projects of vital importance to the Indian Ocean or the Region. We have extended the LRIT facility to some of our littoral neighbours.

Lastly, we need to recognise that there are several organisations that work independently to raise awareness regarding the maritime sector. These include entities like MAPS (Maritime Awareness Programme Society), Sea Cadet Corps, NCC and Sea Guides, besides organisations of seafarers such as NUSI and MUI.

The awareness regarding any sector would be higher if it includes common folk in its fold. Water transport, the most ancient and common means of transporting people and goods, has been overtaken by road and air transport in the preceding decades. The Government's effort to rejuvenate water transport is a step in the right direction to bring people closer to the waters.

In this context, cruise ships play a big role in familiarising people with the sea, with ships and with the seafaring community. In earlier years, students have been invited aboard commercial vessels; I have had the good fortune of boarding MV Vishwa Vijay during my school days – my first introduction to a huge ship. Security and Safety protocols have been a barrier to such people-ship interactions, and we need to find new ways to enhance the visibility of the maritime community.

To this end, I propose that we launch a “Sea Congress” on the lines of Indian Road Congress. The Road Congress offers a platform for all stakeholders to deliberate on technical, operational, policy and institutional capability issues. The Sea Congress, likewise, can be an opportunity for us to meet and work towards the common goal of raising maritime consciousness.

Enhancing Maritime Awareness: Policy and Management Issues

Capt Harish Khatri, Master Mariner

Nautical Advisor, Maharashtra Maritime Board

When I raised certain queries to *Uncle Google*, more answers on maritime domain awareness came up and quite little on maritime consciousness. That is why I would like to congratulate organizers of this event for choosing such an apt theme as “Enhancing Maritime Consciousness”.

Shipping, as is often being said, is a silent service. Ships silently call at ports regardless of the time of the day and quite unmindful of the season of the year, do their business of loading and discharging the cargos and sail on to their destination. Ports on the other hand, require comparatively smaller landmass, most of which is later reclaimed, and ships are manned by a very highly trained crew of 20-25 people which boast of several nationalities. However, behind a rather simple ship-port adventure lies a complex industry which has multiple agencies such as classification societies, ship managers, freight forwarders, charterers, flag administrators, international entities like IMO, ILO etc. I wish that today’s seminar leads us in enhancing Maritime Consciousness and about shipping perspective so that India eventually develops a strong maritime constituency to facilitate larger port capacity and trade.

Enhancing Maritime Awareness: Policy and Management Issues

Cdr Nevil Malao, VSM (Retd)

VP Operations, JM Baxi & Co

I would address the policy and management issues as regards enhancing maritime awareness. I represent JM Baxi which is one of the oldest shipping companies in the country. Our salient aspects consist of four verticals encompassing services, logistics, infrastructure, and technology. We have over 6000 vessels in almost 23 ports of the country. This is our distribution of various shipping types that we handle of which tankers being the major share, followed by dry and wet bulk. I personally handle the cruise and other major shipping for JM Baxi. Therefore, my emphasis and thrust would be based on the cruising perspective. We interact with almost all governmental bodies, ranging from customs, immigration, shipping, banking, DGS, ministries, and therefore I hope to provide a perspective which will connect with both sides of the gangway. This is the maritime environment where I would like to emphasize on the cruise tourism which is a niche aspect of the maritime environment and that would affect the country to a large extent.

We have discussed the port sector and their jurisdiction; how the major and minor ports are controlled by state and central governments. The traffic at minor and private ports has increased substantially over the last few years. The connectivity to the hinterland is rather limited as brought out by the various speakers. In my opinion, the mushrooming of minor ports in close vicinity of other ports is possibly unviable because you create world-class infrastructure at various places, you do not have enough business to keep up your ends unless the back end is looked after. Here we are competing against ports like Dubai, Singapore, Colombo as part of tariff and other charges which need a major relook. Major ports are handicapped by slow decision making which the private ports compensate for by being much faster off the block.

We have spoken about the share of coastal shipping largely. Capt Bahl and Dr Shankar brought it out. I think the emphasis of the Indian Govt should be to increase the coastal shipping share. Not one single company is even in the top 25 shipping companies of the world.

Coming to the cruise sector, the sector is worth USD 150 Bn. People want to cruise but regrettably India does not give that kind of an opportunity to increase that environment or expand it. 65% of cruise passengers tend to spend almost about \$376 prior to embarking on a cruise and about \$100 at every port of call. Here is an opportunity to not only look at what the port or allied agencies can garner but is the advantage of the whole national economy. As of now, we have five major ports which can handle cruise liners but regrettably not even one of them can handle more than two cruise ships simultaneously. The smaller ports like Porbandar, Okha, Diu, Lakshadweep, Port Blair etc suffer associated problems of having customs, immigration, and other security agencies on board, as to how to get passengers across. And therefore, we are looking at developing infrastructure at all these places. The infrastructure at various terminals is dismal as far as cruise ships are concerned because we understand the requirements of handling cruise ships and commercial ships are largely different. You need different berths, You need cleaner ports while handling various cruise ships. We need to understand we are handling people and not cargo and most of them are senior citizens (60-65 years plus) who need more care and affection while coming ashore.

The argument by ports is that they need call numbers to increase the infrastructure. It is a case of chicken and egg. The cruise companies claim that unless infrastructure improves, they would not be able to make those calls. There are terminals which are being built at various places, including one here in Mumbai. Regrettably for the last year and a half, the bid date has been extended seven times because it is not viable for a commercial entity to even bid for such a project. The Government is now looking at changing a few things in the bid document to make it viable and make it work.

We have a task force on cruise tourism brought into effect in November 2015. We are trying to get a cruising policy in place. A policy per se has not come up but we have tried to standardize an SOP on how to deal with various aspects of customs, immigration, security, PHO etc. India is a prime destination which has a lot of culture and it is extremely attractive for the cruising industry. The immigration procedures have seen a significant improvement in the last four-five years; they have been streamlined. Visas have gone online; the process of improving incoming manifest has improved significantly. The port tariffs have been rationalized in 2017 and as latest as Aug 2020 to try and give a fillip to the number of port calls that happen in India. However, the various regulations are varied and ambiguous on most occasions. And that leads to very extreme measures because of non-availability of resources for its implementation. That is a major handicap. The financial rules e.g., Purchase of cruise tickets is cheaper abroad. Talking about paperwork; it is a nightmare to walk out with a pile of paper from a ship. And it is because certain ports require 12-13 copies of crew-manifest or a passenger-manifest of about 2500 passengers every time the ship calls to that port. These are the things that need a revamp.

The customs duty regime which was brought into force in Oct 2018 (I remember it was four days before the cruise season started); it was a nightmare since no one knew how to establish around that process. It was just a one-and-a-half-page directive, very ambiguous, it led to varied interpretation of one single paragraph by the customs authorities ranging from Porbandar to Port Blair to Chennai to Goa. And believe you me, two years I had a show cause notice issued by the customs for the first call that we had within 4 days of this customs notification while for the later part, the remaining 60-70 port calls we handled that year, there has been no issue. The basic point is that the interpretation of this regulation by a superintendent sitting at one place has wreaked havoc. Procedures for calculation of the duty were very ambiguous, creating many issues. What does the industry expect? It expects that the tourist destination is improved, otherwise there is no point of a ship coming to a particular destination. Can we ease the visa regulations (entry-exit procedures from various ports); because every institution of a country, to be very frank, wants a finger in ensuring security of the country whether it comes under their jurisdiction or not. The standardization of various processes is much required because I am at pains to explain to a cruise company as to why the immigration or customs at Goa or Mumbai or Cochin require three different processes. Waiving the declaration of inventory/stocks and its sealing on cruise ships as it is done on commercial ships, is not actually viable. We have taken up this case with CBIC and customs authority for the last two years but regrettably we are moving too slow. We had a classic case of an Indian cruise company, *Jalesh* that ran its operation for the last two years but has regrettably had to wind up early last month because it was not viable for them. The taxes on its marine fuel itself took away a major part of their revenue and it was not viable at all. The ban on cruising preceded the

lockdown. It is particularly important that we get the cruise and commercial shipping back into India. I must say that India has reacted and handled the COVID much better than most of the other countries. We are looking at resumption of cruising at a short notice. The itinerary of the cruise ships is drawn two years in advance and therefore making changes is going to be difficult.

Regarding digitization, the pandemic has accelerated it across the country. What we were trying to achieve with customs and immigration before the pandemic struck was largely achieved during the pandemic. In fact, one of the first port clearances by customs was issued by email a few days ago. The PCS-1X is being drawn under the IPA, Indian Port Authority's mandate is a cloud-based technology, and it is at par with the major global practices. It greatly improves the ease of doing business. It is a platform that is getting integrated and is being used by almost 19-20 stakeholders. It has won a few rewards; best in e-governance, best IT project, best in Class IT system provider.

I think the laws and regulations are well-intended across the country. The intention is good, but the execution is questionable because of lack of preparation. We have examples of the SEMT regulations which were postponed for 4-5 times in a year because we could not find a stable process. Faceless customs clearance has just started and is going through some teething issues. E-invoicing has been brought-in with effect from 1st Oct but sounds dubious as it lays down certain conditions that are made to the establishment of vendors themselves. There are various things in the pipeline; new regulations, maritime India vision, how it is going to change the regulations about the use of tugs made only in India in various ports. You will see how industry responds to various regulations coming into force; when a major cruise line home ported in Mumbai in 2016, the number of calls went up; the composite tariff for five major ports was incorporated, the number of cruise lines went up; customs duty on all consumable items on board was imposed, it came down. Because of the various economic requirements, people have stopped using Indian ports and repositioned to US and Europe.

What we need is Last Man Connectivity. Various regulations are issued by the powers that be, but what is needed is that it trickles down to the last man on ground for its effective implementation. And as the Japanese say, "Hurry up, but slowly".

Enhancing Maritime Consciousness For Sea Power – Policy, Opportunities and Constraints
The Way Forward: Draft Maritime Vision 2030

Capt Sudhir Subhedar, Extra Master
IMO Consultant

Capt Sudhir Subhedar spoke about the way forward on the Draft Maritime vision 2030 and put forth his recommendations. However, due to the connectivity issue, his speech was incomprehensible. Capt Subhedar's speech could not be transcribed to clarity and hence has not been included in these proceedings.

Development in Marine Infrastructure and Coastal Surveillance

Ms. Rupali Sharma

Managing Director, Envitech Marine Consultants Pvt Ltd

I would begin with my topic, which is development needed in marine infrastructure and coastal surveillance and some products and equipment.

I would first begin with development of marine infrastructure, which will include availability of tools and technicians, skilled marine labour, better marina, single window assistance, training, and support centres. There is a huge need for developing all this.

Being a private company involved in the sector of marine, it has been quite difficult to perform a few operations in the past and present. There is a saying in public especially among ship owners that “the boat owner is happy only the day they buy the ship and the day they sell the ship. Rest in between they are always struggling to get certified pilots, a Marina, maintenance and services.” This is because of marine infrastructure that is lagging.

We need a Private Regulatory Body dedicated to help an individual to understand and guide the right and easy process, to procure a simple four-seater or two-seater boat, just like we don't simply buy a car without calculating its maintenance, servicing and the parking. Other than certain government agencies, if a private player wants to buy a boat he has to go through tremendous challenges like the Marina, Security, Maintenance and operation of the boat. We do not have certified and skilled pilots to drive the boat. Most of them don't have the Captain's license due to the lack of awareness leading to accidents. If the Maritime Industry can develop a better infrastructure, I believe private players will start taking part in Marine related activities like sailing, water sports, scuba diving, etc.

Next is skilled marine labour. We do not have skilled marine labourers in the market as there is no awareness in the field of Marine; most have moved offshore for better exposure and incentives. To hold them back we need to have some recognition and excellent infrastructure and training.

Then coming to tools and techniques; the basic tools like High Power Underwater Laser Torch needs 3 days to order from abroad. Basic diving kits, oxygen cylinders, approved diving kit, Buoyancy Compensators, Dive computer are available but subject to end user's confirmation. If a private company like us wants to buy an oxygen cylinder or a diving kit, we must pre intimate. Even products like buoyancy compensators and dive computers are not easily available.

Also, there is no single window assistance, for instance, if anyone wants to get into anything related to marine, there is no single window where he can enquire about rules and guidelines especially for private players. To obtain necessary permissions for execution of any marine related jobs there is no single window assistance.

I believe there must be a Quick Response Support System. In case of any uncertainty, there is no quick response support team to rescue from that uncertain situation. Last year, a ferry running

from Gateway of India to Alibaug capsized and when they tried for help from Coastal Police, they could not get a prompt response, so some private company came to rescue in no time. Thus, these are the basic things required to be in place, especially a regulatory body or a single window clearance. To perform an operation here in India, it was a great task for us to arrange the labour for diving, operating the boat and for other assistance.

Now coming to coastal surveillance; we as a private company have developed an 'Air borne Surveillance System'. It requires less cost, less manpower and no risk to human life or equipment cost. As far as I know, there is a continuous sortie that happens to do the surveillance. My company has a surveillance which will be cost-effective, where there will be no threat to life or equipment in use. There is also an automatic identification system which we can implement for purpose of coastal surveillance.

Next comes Marine Services and Equipment. We have Underwater Marine Manned Submersibles that can be used for underwater survey and inspection work and for deep sea testing. We can use this as a cheap alternative to submarines as it will save cost, reduce cost of deployment and increase mission flexibility.

We also have a new water dredger called 'Watermaster' which is a smart solution for hard work. We also have Underwater Magnets that can be used for anchoring by finding the best holding position for the vessel. These can also be used for securing mooring lines.

The Blue Economy can be boosted if basic infrastructure is in place so that people will begin investing. Also, regarding enhancing marine products and businesses that my company provides as a private player, we provide not only generators but also hydraulic generators, compressors, and hydraulic high pressure water pumps. We have diesel fast-fuel systems, aerial airborne surveillance system, security and environmental self-addressable systems. So, it makes them cost effective solutions and makes them comparable in the market.

Section 3 (SPECIAL SESSION)

Maritime Consciousness in the UK – Current Issues and Challenges

Maritime consciousness in the UK – Current Issues and Challenges

RAdm Nick Lambert (Retd), Royal Navy, Master Mariner
Former National Hydrographer, UK and Director, NLA International

Speaking to you is quite the privilege. It's a lovely sunny cold morning here in the UK, we have frost this morning, the first one this year. I left the services about eight years ago, as I said. I have set up a company called NLA International. We see ourselves as a Blue Economy (BE) solutions company. The reason we call ourselves a blue-economy solutions company is because we want to make things happen. We want to derive the socio-economic benefits of the BE whilst at the same time supporting, maintaining and even (I hope in the course of time) improving the marine environment. So, it has become a real passion of mine, it is entirely relevant to navies, naval operations because the more socio-economic activity that takes place at sea, the more the need for maritime security. But also, the ability for the navies to interface with other maritime security assets in the sea space, particularly complex sea basins (I will talk about complex sea basins in a moment).

Coming to the Blue Economy, I just want you to understand from my perspective that it's all about natural capital on the sea bed, in the water column, in the air space above, the biological resources and particularly the interface between land and sea. It is very easy to see the coastline as a barrier, it's not. It is an interface. It is part of the human thoroughfare to and from the sea. It is from where the bulk of the world's population lives. It is where the bulk and majority of the world's port cities are. They are the major cities of the world. They are the ones who will be most affected by Climate Change and Climate Change will be a theme that comes out throughout this presentation.

Coming to maritime operations, anything that human beings do at sea and this is more than just navy, it could be culture, it could be seabed mining, (I know that raises issues with some), it could be seaweed farming, it could be leisure, coastal tourism and sailing. As soon as you start doing things in the sea, you are, in my opinion, a mariner. You need to cooperate efficiently, safely and in a secure way. I have extracted a slide from the EU's blue growth policy, a very well-written policy, in my opinion which defines the Blue Economy.

You can see the enablers of the blue economy which are marine data, maritime security, maritime spatial planning, environmental protection, to enable sustainable use of the sea and how do we share infrastructure. How do we ensure the skills and knowledge from oil and gas are shared with offshore wind and renewables? And common skill sets, the ability to operate safely across the blue economy. Lots of people ask about the value of BE; it's enormous. The numbers are ridiculously different depending on which study you read. Some people say it is equivalent to the seventh largest GDP in the world. I don't believe that. I think it is bigger than that. We simply don't understand fully the value of the blue economy. And we also don't understand how seas and oceans enable our climate to operate safely. I said we are a solutions company. We have just completed a significant research project, R&D project on Brazilian position, navigation and time i.e. the ability to use terrestrial systems to back up space based systems. So that has gone down very well in the UK govt, US govt and various other agencies. It is very important at a time when we see more and more deliberate interference with GNSS at the same time as our reliance on GNSS as effectively a means to run our economy, as we see that being challenged. We have done a lot of work on

countering illegal fishing using situational as well as management techniques and space-based data. We are currently running a big project with the government for countering illegal fishing and improving fisheries management. We are looking at projects to oversee the environmental impacts of ports and projects such as basic mapping and satellite drive symmetry.

I am going to talk now about strategic trends that we are seeing in the UK, North West Europe and in this part of the world but they are relevant throughout the world. As I said we have projects throughout the world e.g. we are working with the Seychelles government on the Blue Economy.

The first thing is Technology. There was a wonderful expression by Jack William Gibson, who is a sci-fi writer in the 1990s who said “the future is already here. It’s just not evenly distributed. And I would like to adapt that (I am sure I stole that phrase from somebody else) to the technology that is already here. It’s just not evenly distributed. And what I mean by this is the danger of being sucked in, getting excited about the technology and not thinking about the means by which you operate the technology and what purpose you wish to use the technology for? That’s a great danger of what I call yellow box in where people get excited about satellite or about autonomous systems and what they really should be excited about is what data do they want; how do they want to analyse and convert it to information so that they can make decisions to do whatever it is that they do better.

The COVID impetus has been enormous throughout the world. We have seen increased ability to work remotely and we started as COVID started in March and we have implemented that remotely from seven countries over 11 different time zones and we haven’t put the people on the ground that we had originally planned to. And talking about constant technologies, we are happily involved in constant technologies for Resonance, Position, Navigation and Time. We are going to see much better services, much better human user interfaces and we are going to see autonomy being used very imaginatively by companies that haven’t even started setting themselves yet. But it’s happening very quickly.

So “What is the definition of a mariner?” It is easy for us to think but the mariner is a lady or a gentleman who operates on ships at sea. I think that definition is expanding rapidly. I think anybody who does work at sea is a mariner. So we can expect technology is available and is going to be exploited. We have some examples there. We have done a lot of work with Ocean Infinity, the seabed engineering and survey company using autonomous systems. We are working on a hands free eye wear solution. I am personally fascinated by the evolution of, or the reinvigoration of sailing ships. We have just seen the enhancements of a Swedish car carrier that’s going to be able charge to 12 knots using sails, solid sails.

I think we are going to be in a situation where maritime is increasingly connected. I have said it in the bottom bullet there. We are going to have a maritime cloud. We have effectively got one. You just have to throw enough beans at it to get what you need. We are seeing better and better services, better and better packages, it is possible to run a video conference from sea now, if you choose the moment correctly. So, we are going to see higher bandwidth, lower latency, affordable calling to the sea solutions. But with that will come increasing activities at sea and there will be a

need for maritime security. And then looking at the graphic of the North Sea and the UK to the west and Norway to the north and east, the area covered in the middle there, that is the Wi-Fi, the continuous 4G Wi-Fi network that exists in the sea because of the offshore oil and wind infrastructure.

If you sail from Shetland island, 50 miles offshore you pick up a Wi-Fi signal and you keep it all the way across till you get to Bergen in Norway. The North Sea is an example of a complex sea basin as is the Arabian Sea, the Mediterranean, the Baltic, the Malacca strait, the South China Seas. So, these are all areas of seas surrounded by land of many countries. And the activities that take place in there are growing all the time. They are massive human socioeconomic thoroughfares and with it the need for connectivity that improves activity, improves management that increases the need for maritime security.

So, I am very excited about complex sea basins. You will also see reference to sea basins in the blue economy strategy that I mentioned that the EU has published. There are complex sea basins throughout the world. Connectivity on the high seas, the big oceans of course is more limited, but do you actually need continuous connectivity on the high seas. We will get it in full strength in time. It will improve in full strength in time. But the fact is that in the sea basins, there is plenty of it. So there are lots of people getting on and developing business model accordingly.

You all are aware of the number of satellites which are there at the moment. I think India outscored the top number of satellites launched from one rocket about a year or so ago. It was 144, if I remember correctly, stunning achievement putting 144 small cubesats into lower orbits. This is happening all over the place. We could have a long conversation about space junk and polluting lower orbits but let's not do that at the moment. Let us look at the exciting opportunities, which is the ability for anybody to buy the highest resolution, real time, lowest latency data service from space. You just have to have enough money. The result of it is we are seeing numerous young companies spawning from the ability to provide geospatial intelligence to a whole range of end users. So, real time earth observation is here, and a lot of people are exploiting it. Some wonderful social and economic activities, some very interesting challenges, from the point of view of naval operations! How are you going to operate in a complex sea basin where everybody can see you? We need to start thinking about how we change our naval concepts of operation, our tactics and our strategies. On the other hand, we could also have the same real time earth observation that everybody else has. So, there is a need to think long and hard about this.

When we have got all those datasets combined with the connectivity and real time ability to get that data onto display in front of the decision makers somewhere, you can convert it to information. And again, we are seeing more and more start-ups get on to, what I call the geospatial intelligence bandwagon. There are many examples of them there, most of which we work with. They are transforming how things are done at sea. And there are risks going with that. But there are some wonderful opportunities. Interesting to stand at the bottom here at the Shetland Space Centre! Shetland is our island right up in the north of the UK. We've just had a public announcement that we are going to launch our own rockets. So watch out India, we are chasing after you. Now we are going to launch our own rockets to put satellites into lower earth orbit. And there is a need to provide range safety which NLA has been asked to help with. So, we would be using some of the

satellite data sets to provide range safety in clearance for those operations. And VERUMAR – VERU as in veracity and MAR as in marines, that is our project in Philippines for fisheries management where we are also creating information based on the datasets I just described.

The case studies for you in the commercial shipping world – Chart World is a distributor of the ENC's and paper charts but they also have the fourth largest ECDIS system. They see software as their standard service. They have a new service called, My Route Appraisal – so you can say I want to travel from Bahrain to Suez and you can send that off to AI solution that can come up with a suitable passage plan and that will be returned to the command team on the ship for command approval. Really interesting development. I think they will be the first companies to enhance the always connected system. The idea that the vector systems are being isolated is about to change. We are going to see them always connected.

STM (Sea Traffic Management) is a massive project being rolled in the EU for about 5 years or so. They have 414 ships, 13 ports, 05 shore centres all working together to manage the movement of ships to and from harbours and the interface with road networks or railways. Interesting development about to be reinvigorated next year! And I expect to see full deployment in North West Europe by 2030. Massive changes!

Route to Autonomy. My interpretation of the route to autonomy is based on the business model of the large ships. People are finding it hard to have the numbers stack up, the point is that if you look at the trend, we already have e-navigation, we've got the connectivity that I talked about, ships are getting smarter and smarter (and this is across navies and right through commercial world). We are seeing relationship in shore improving all the time, we are seeing the infrastructure going up all the time. I think we will see human in the loop in the foreseeable future. I think that is a good thing. I think that's how you get benefit when you have got experts in front of the information.

So, the question is if you get to a point when you put an autonomous ship, what are the unintended consequences? What are the unintended benefits of the infrastructure that enables you to do that? You think about the space race back in the 1960s-70s, the unintended consequence of the space race is we all got BELCRO. We now use it continuously. It was designed to assist astronauts, but I think the benefits for the wider BE of enabling autonomous operations are enormous. Wind farms and fish farms are an example.

Lot of statistics. Amazing to think there are 11000 plus satellites launched by 2030. The connected ship markets there, USD 14.5 Bn by 2030 and the autonomous ship numbers are even bigger. I think autonomy is not as easy as people think it is technically. I think the business model is hard to implement.

I do not have the statistic how many countries have BE strategies there but 27 in EU, 38 in AU, Phillipines, China, Bangladesh, Canada, Caribbean states, they have all got BES. The Irish have BES for harnessing our ocean wealth. They implemented that back in 2012 and year on year they have a conference. They stack up the numbers and show how much they have grown in Blue Economy. It is not the world's biggest economy but it's definitely showing traction. And any Irish politician will tell you that Ireland is 1/10th land and 9/10th sea.

The UK maritime 2050 policy was issued with the terminology 'Blue Economy'. The UK's very evasive of the term (I don't know why) but they have included in their BE sectors like offshore, renewables and aquaculture and also a vision for maritime security in 2050. So I think I will be recommending in UK and others are beginning to follow. It is how we adapt what we do in defence and navies to enable maritime security so that the BE is effective. The BE concept will be adapted by majority of the world's coastal nations and I think (this is pertinent to India) many large ocean states are emerging. We in the west, very rudely refer to them as Island developing states. I think they are large ocean states. Take for example Seychelles with area of maybe 450 sq km, about 60000 – 90000 population, has one of the world's largest EEZs with maximum resources in it. So, Seychelles is a large ocean state.

Ocean Conservation, Climate change – absolutely important now and that is what is going to drive the BE. It is going to drive the need for understanding the sea and ocean, to drive the need to data capture. We are seeing under SDG 13 and SDG 14. We are seeing Generation Z getting quite rightly engaged in the need to better look after our environment and so we are seeing thrust of ocean conservation happening very quickly. Ocean conservation needs infrastructure and it needs data and in my opinion every mariner should have and be providing that data and helping acquire the infrastructure needed to understand our seas and oceans and to help improve state of our oceans and help manage climate change.

Strategic Summary. Connectivity will come in and that will be route to autonomy. But there will still be need to navigate, there will still be need to operate safely throughout maritime operations well past 2030. We are going to see the domination of ocean conservation and climate change. I can see that navies and governments can influence, enable and support the modernizing shipping sector to 2030 and thereafter. Many agencies, hydrographic offices, coast guards etc. can all help in the cause of the BE. And in doing so help gather the data needed to attack the challenges of climate change. But we need to be focused on real action. We need to adapt to digitization. We need to grow new partnerships and capture clever start-up companies. We should be horizon scanning. We should be grabbing ideas and opportunities. We should be seeking what the end user needs and we should be creating meaningful project and tackle these big exciting opportunities. We should also understand that we are in for the long haul.

SECTION 4

Panel Discussion: Achieving Maritime Consciousness – Ways Means and Ends

Panel Discussion: Achieving Maritime Consciousness – Ways Means and Ends

A Panel discussion on the topic was conducted which consisted of the following: -

- Cmde G Prakash, NM (Retd), Distinguished Senior Fellow, Defence Research and Studies (DRAS)
- Cdr Ninad Phatarphekar (Retd), Maritime Historian and Museum Curator
- Shri Sandeep Unnithan, Executive Editor India Today and Senior Journalist
- Dr Naina Majrekar, Asst Professor of History, Krea University, Sri City, Andhra Pradesh
- Capt Suneha Gadpande, Master Mariner, Maersk Tankers

The discussion that took place among the panellists is transcribed below: -

Cmde G Prakash:

It is an absolute pleasure to be moderating this wonderful panel. I have had a long association with MHS, MWC (Mumbai) and one opportunity to speak at IMF Pune. It is with great pleasure that I join this session.

In the first session, we heard from the practitioners; the Navy, the Coast Guard, the merchant marine, and a serious researcher of the oceans. In the second session, we heard about policy and management issues. Both the above, however, draw their legitimacy and intellectual capital from the actual maritime consciousness of the people in our country. That is the theme of this session.

It's not easy because the word 'consciousness' itself cannot be definable (it defies definition) and maritime consciousness, is even worse.

So, how maritime conscious is India?

If we look at the massive pointers from the past staring at us, we have no reason not to be deeply maritime conscious. Let me state a basic premise.

Those who came by land, settled here, became a part of us and became Indians. And those who came by sea conquered us, ruled us, destroyed our age-old strengths, sucked us dry, and with hardly any industrialization; left us stranded in a majorly industrial world. How did all this affect our people? How many of the rulers and subjects could still understand the sea?

Seeing the whole thing from another perspective, India enjoys almost every element that Alfred Mahan listed as the essential assets to become a maritime power: our location, our harbours, our internal waterways, our produce, our climate, our population etc. We have everything. Where have we reached with all this?

On the face of it, we are highly terra centric. We tend to have this misplaced belief that history is made on land. And Oceans are seen as blank spaces among chunks of land. Let us face it. Sea power & Politics are linked. There was a king in 14th century in Britain who wanted to revive

seagoing culture, but needed human capital for that. He had made eating fish on Thursdays and Fridays compulsory which started off movement at sea and honed human resource to thereafter build a Navy.

Even today Indian Navy has fish on Fridays. I am sure it is the same tradition that is still lingering without realizing why it is there.

Imagine how life would have been if history had taken a different path. If the Cholas and Marathas had taken north India. Things would have changed. In fact, Raja Raja Chola reached Ganga in 11th century and ruled those areas. And Marathas defeated Delhi in 1758. But they somehow decided not to rule it? So, it is a very eclectic mix of settings. Thus, what are the Ways and Means for us to enhance our maritime consciousness? What are the ends we must aim for? How do we get there?

To discuss all this, we have an amazing panel. We have Commander Ninad, retired, Capt Suneha, from the merchant marine, India's first and only lady Captain of a foreign ship, Sandeep Unnithan, he is Executive Editor with India Today magazine at New Delhi who joins us despite his extremely busy involvement with the US elections (No he is not fighting it, he is just following it), and Dr Naina, a very accomplished academician who teaches at Krea university.

Let me start with Cdr Ninad.

From starting as an Electrical Engineer in the Indian Navy to working in the corporate world and ultimately being a Maritime Heritage buff, who indulges in promoting maritime heritage, it appears to be an interesting journey. Tell us more about this journey?

Cdr Ninad:

It is bit of the heritage in the system but the spark to research heritage and history was ignited about 20 years ago when I was posted in HQ WNC which was then at INS Angre. And that was where I realized that this was the nucleus of the city of Mumbai, the Bombay Castle.

In my various wanderings, I came to realize that there is a structure here in Bombay Castle which even predates the Taj Mahal. So that was the spark which was lit 20 years ago which later-on became a flame another 5 years down the line when I was posted to the Naval Dockyard where I was in-charge of maintaining the dry docks. And I came across Bombay Drydock which is the oldest surviving drydock in Asia which was established in 1750 and it is still being used to this day which is an amazing thing even after 270 years. So the spark became a flame and the Naval Dockyard Mumbai is a treasure trove of all heritage and historical things which one-by-one I discovered. This spark became a flame and now it has turned into a raging inferno when I got the chance to research for the *Dharohar*, which is the Maritime museum at Mazgaon Docks where I was part of a team that set up and got opportunity to research in much deeper manner.

So, the spark became a flame and now it has turned into a raging inferno and now all things maritime, of maritime heritage, maritime history interest me very much. Also because of our wonderful city of Mumbai draws its very existence from its role in the maritime and its natural

harbour. That is one thing I would like to promote and propagate. I would like more and more people to be aware of this.

Cmde Prakash:

My next question is for Capt Suneha.

You have had a wonderful journey; starting off at the heart of India, from Bhopal. Growing up in Bhopal and then going onto the oceans, where you became India's first lady cadet and first and only Captain of a foreign ship, going on to win many special laurels, becoming an ambassador of social causes and even inspiring a Netflix episode?

Can you tell us more about this journey Capt Suneha?

Capt Suneha:

Coming from Bhopal, yes, it is absolutely landlocked and there is no water around (you have never seen it except in the lakes).

The only thing that inspired me was one of the Indian Navy series on Doorshan called Aarohan; how the girls entered the Indian Navy, what kind of training they were doing, that is how the dream for Navy started. That was in my Std VII. I started preparing for all that. My parents used to feel that it is just a child's dream and might just vanish off. But somewhere it kept me going and later I got to realize that girls cannot join the NDA directly. They are supposed to do their graduation first to get to SSBs and that's the reason I applied for my engineering exams and was doing my mechanical engineering from NIT Bhopal. Whilst I was doing my engineering, I got a call from SCI for the interview. During my interview phase, they told me that you will be the first girl cadet to be joining SCI and this is the first time we are doing so and we would want you to be here. As usual, parents would have their own apprehensions especially my dadfirst time girl....never have been there...six months training....he would be aware what Merchant Navy is all about, but for me it was all seen as Navy Navy.

It is my dream which was coming up and I would not let it go. So I did let go my Mechanical Engineering from NIT, when I chose to be a part of this. And that is where the journey began. Although I still feel I have not done anything very special but when you speak to the fraternity members, they do tell you and the way their questions come forthhow are you managing it, how are you managing six months at sea, how have you managed training, how have you been an officer....I somehow managed to inspire myself at times. I also see it as a long run, 17 years of my struggle to bring me up till here to command a vessel. It would have been a very easy life but somewhere I thought so that you will be telling your kid some story about yourself. Let us choose something more interesting and adventurous. That is how my career has begun and is continuing.

Cmde Prakash:

Coming to Sandeep Unnithan.

From being born as son of a naval officer who graduated in ancient Indian History from St. Xavier's College, Mumbai, to becoming a successful journalist authoring two excellent books on real life events – 26/11 Mumbai Attack and the IN's action in Bangladesh. Both of which have had much to do with the sea and impact on India. You have had a great journey like the others in the panel. You have actually had a lot to become maritime conscious. How much have you really become maritime conscious? Which part of your life influenced you the most to gain this consciousness? Was it your naval atmosphere early on in your life, or was it the history you learned in college or was it the subject of your two books or was it from your experiences as a journalist when you interacted or studied people who made policies and those who implemented them?

Sandeep Unnithan:

I would like to take that question up into two parts.

The first part is of course on the books.

Now out of some extraordinary coincidence, the books that I have written have something to do with maritime consciousness. In fact, I wrote a chapter in a book about 20 years back at an invitation from a friend Hussain Zaidi; it is called 'Black Friday' which as you all know is a book about the Bombay serial blasts of 1993 (Bombay as it was then called). You know what happened there. It was the Pakistani deep state that used the old smuggling route and the smugglers (Dawood Ibrahim's syndicate) to land explosives provided by the ISI in Mumbai and attack targets there. So again the threat that came from the sea.

My first full book was 'Black Tornado' which is about 26/11 attacks of 26th Nov 2008, which in hindsight is a naval special forces raid carried out by non-state actors that were trained, equipped and infiltrated by the deep state of our neighbouring country (no prizes for guessing).

The third book released last year is 'Operation X' about a very unique naval maritime operation in Bangladesh where the Bangladeshi freedom fighters attacked the Pakistani merchant shipping that was bringing men, material and supplies to the Pakistani Army of occupation in Bangladesh in 1971. It is a very unique story and I co-authored that book with Capt MNR Samant, MVC winner from the 1971 war.

Now the common thread in all these three books is the fact that those who ignore the seas, those who ignore the maritime borders, do so at our own peril. It is not something that I wrote but it is my distilled essence of having written these books is that every time you let your guard down with the sea, you get surprised.

Now coming back to the first part of your question, the fact is that yes I have a naval background, my father was in the navy for more than two decades and that kind of shaped my consciousness. But the fact that I spend a lot of my time in Mumbai as a journalist (I spent more than a decade as a journalist in Mumbai) I got to meet remarkably interesting people like Cmde Kesnur, Cmde Chitnis, I interviewed them, I have spoken to them. They are very deeply passionate individuals with great love for the Navy and maritime affairs, so that kind of inspired me to read

more. Probably I have seen more of the navy as a journalist than I have when my father was in the services. And the fact that I was a student of ancient Indian history...so it is a combination of all of these. My entire upbringing, my career and the fact that I was in Bombay for crucial years, it is a combination of all and the books that you mentioned. So I am a creature of the sea!

Cmde Prakash:

Dr. Naina, your research, about the intersection of the histories of migration, labour, anti-colonialism and cosmopolitanism, sounds exotic. Thanks to this seminar, I read up two papers from JSTOR to familiarise myself with the term maritime radicalism, a concept central to your study. I personally have researched the age of discovery but the age of revolution which gave birth to whatever you have talked about, that is interesting. Can you please tell us briefly about this world you studied and how it matters to us?

Dr Naina:

Thank you Cmde Prakash and Thank you Cmde Kesnur for roping me into this. I have to say this that I have had truly little formal association with anything naval, although I did interview some people in the course of doing my doctoral research.

I think it is particularly important to bring a kind of historical aspect to questions of maritime consciousness because looking at it from the prism of the present, it tends to blinker us sometimes and the idea that the sea is there to protect us from what comes from outside is also something that is very modern (i.e. colonialism onwards).

The fact that the East India Company came from the sea and colonized the mainland is something which hides a lot of longer history of the sea a something which connected people, which connected trading communities, communities of pilgrims. So, I think it is especially important to do that and so my coming to maritime history is from the perspective of seeing the sea as something that connects rather than separates landmasses.

Unfortunately, a lot of histories tend to be as you rightly pointed out yourself Cmde Prakash, very terra centric. So, these are territorial entities that are marked off by political boundaries and history tends to be written within those containers rather than across wider global perspectives. So, that is the sort of point of view with which I came to it.

As far as your question on maritime radicalism is concerned, that is not something that I came up with. It is an existing term which is used and comes from the histories of the Atlantic Ocean in the early modern period, the 17th-18th centuries. In this period, historians have looked at how naval warfare is not simply a matter of strategy and operations in battle but also battle for the hearts and minds of men and women who serve in the navy. They have described how hearts and minds are not commanded by the service but are also part of the course of larger social and political worlds from which they are recruited. The ideas are shown in their home milieus as well as their ports at which they called in the course of seafaring. The historians have studied this (I am thinking of great historians like Marcus Rediker and his student Nicholas Frykman at University of Pittsburgh). They have looked at how in the 17th-18th century in Europe and Americas, the landmasses which framed the Atlantic Ocean; it was a period of democratic revolution against

absolute monarchy, against colonialism. But for the first time you had this idea that all men are equal. It is historically new at this period. You have the English Revolution in 1642 against the king in England Charles I, you have the American Revolution in 1776 and the French Revolution against Louise XVI in 1789. And at the end of this period, you also have the movement for the abolition for the Atlantic slave trade. The idea that not just all men are equal if they are white but also that all races of men are equal, and that one race does not have the right to hold the other in chains was going on. So, in studying this period of radical ideas and movements from a maritime perspective, these historians noticed that the revolutions didn't stop at the ports but spilled over onto the ships; the sailors carried these ideas across the Atlantic to the other ports and that the sailors also acted on some of these ideas.

The most famous example is the one where these two high profile mutinies in the British Royal Navy in 1787 took place. This is in the run-up to the Napoleonic Wars (the first naval war on a global scale). In this run-up there were these mutinies, at two anchorages; at Spithead near Portsmouth and at Nore which is near Thames estuary. Several ships mutinied and it spread to other ships at anchor. Interestingly, it is after the Nore mutiny that the Royal Navy vessels no longer sound five bells at the last dogwatch because that was what was being used as a signal to start the mutiny. This is one incredibly famous example of how the larger political social context does inform the way that those who serve in these fleets act on these ideas.

This is being studied in wider terms, so it is not an exception and one historian has shown that a third of all the European navies saw mutinies in this period. It is a mass phenomenon. The connection between these mass political movements and what has been called maritime radicalism was not limited to the early modern world or the Atlantic; the Indian Ocean also saw something similar in the first half of the 20th century which was the period of mounting independence movements.

In this period, the sailors who are recruited to fight in the colonial navies and serve aboard colonial fleets were sympathetic to several movements that they were themselves sent to suppress. We are talking about the context of Quit Indian Movement, the Civil-Disobedience movement before that. So, the idea that these movements are not just things that take place on land but also take place at sea or ships; that is what has been called the idea of maritime radicalism which has been studied in the Atlantic and in the Indian Ocean, it is at a very nascent stage.

Cmde Prakash:

Cdr Ninad, By 2022, the erstwhile Prince of Wales Museum, now known by the name of Chhatrapati Shivaji Vastu Sangrahalay will have been open to the public for 100 years. How has that museum, which has everything to do with the sea, by way of its originators who came to rule us by the sea, and that it was built to commemorate their future King who arrived by sea, contribute to making Indians maritime conscious? Did anything like that ever happen?

Cdr Ninad:

Chhatrapati Shivaji Maharaj Vastu Sangrahalay is one of the best museums in India. Its canvas is very vast. It is not restricted to either the city of Mumbai or maritime domain. It covers

wide range of curated objects and in that context, to increase the maritime awareness in the city of Mumbai, it has fallen a bit short whereas compared to that the Indian Navy has periodically organized pop-up museums; Vikrant was made a museum between 2000-2014. It generated overwhelming response from citizens of Mumbai. Similarly, during the PFRs in 2011, there was a temporary 45-day exhibition set up by MHS in a part of the Vikrant museum that again got overwhelming response, media coverage, crowds were unending.

The Navy has made sporadic efforts to increase the maritime heritage in the city but my personal opinion is that to make the heritage more common, more knowledge; you have to take it to the people, you have to make it easy for people to know about it. And that is where you need more outreach events and activities and of course nowadays, just the common theme of museum, going there and seeing things is a passe. You have interactive museums and a lot of new technology is being implemented in museums. In that context, I think it is time to relook candidly at our maritime heritage efforts, spreading them and move on with times to attract current crowd because this is generation of social media and that is a path that can be taken.

Cmde Prakash:

Capt Suneha, You must be a star wherever you go. Lots of people looking up to you especially young ladies. Can you please tell us, how others around you became inspired about how you overcame the challenges you faced en route to your fantastic achievements? How much has your life influenced the people from Bhopal and other such areas, so far away from the oceans? What are the issues (piracy etc) through which you have gone? What is your assessment of your impact on the people around you?

Capt Suneha:

Inspiring young girls is something I would want to do. Women around me specially would know that every obstacle in front of you is not to stop you but you can also overcome that. That is how I have seen it. There were so many of them that there came a point that the friend requests have exceeded the limit and for them I had to open a fan page where they can post questions or if they would want to know more. Because the profession of merchant navy is not known so well. We are talking about consciousness here but they are not aware even now that females can be admitted or what are the training procedures; frankly nobody knows what happens onboard a ship. Things have not been trained for or talked about in the school syllabus. When my school calls me back in Bhopal (I have always been in a girls school), there are thousands of girls who are just watching me and say she is one among us and it makes me feel very nice. And the questions that come up are the same innocent questions that I had when I was in school; how should we prepare, what are the challenges that come up?

So, yes I don't have a count of it but young girls and even boys know about the profession. I have been doing this and promote awareness about my profession to school and even college going kids through video, audio, virtual means. I have been doing that. It gives me a great different pleasure in letting them know that this profession is no longer limited to men.

Cmde Prakash:

Sandeep, You have been covering national security issues for long and you are aware that the concept of national security, which till a few decades after the two world war years, had a mostly military flavour, has now given way to a wider definition, where anything that can degrade the life of a 'national', is considered important to national security. It is a fact that the sea is so central to our national security in many ways; Energy security, food security, economic security, physical security being some important ones. Unfortunately, Governments and citizens mostly never appreciate the sea, unless events at sea affect their lives. How do you think awareness about these things can be spread? How do you think this will influence maritime consciousness?

Sandeep:

Cmde Prakash, I would like to add one more aspect to that definition of security. This year is about health security and we have been talking about it a lot. The very fact that we are all here today meeting virtually, tells you why. We are undergoing a once-in-a-century pandemic and in India we are facing a combination of security threats. There is health security, there is economic security because of the lockdown; and you have a neighbour who might have taken advantage of these two to impose a national security threat on you and your borders. Thus, this year is a convergence of three security narratives.

What can we do to build more awareness about maritime affairs? There is a remarkably interesting book out this year by Vikram Sood, former chief of RAW "The Ultimate Aim". And it is about narrative building. Now when you ask a citizen about armed forces, his first response would be army, not navy, not air force. Army has its own narratives; they have an enormously powerful narrative given the fact that we have land borders which are disputed and all our wars since independence have essentially been land focused where the army plays a big role and popular imagination, popular culture, movies among the most important influences today. Ask anyone today which military themed movie he remembers in the last couple of years – You have Uri, Air force has Vijeta. Navy unfortunately, has no narrative there, nothing that exemplifies maritime consciousness. I was in Bangalore 20 years back for Aero-India 1996. I met a group of American Pilots there. And we got talking. We generally talked about flying and then we switched over to Hollywood. And his grouse was that if you watch Hollywood, they all tell you the same thing. The US Navy do everything, they are doing the flying, we are not doing anything. He was referring to two movies released in the 80s – "Top Gun" and "An officer and a gentleman" where you had the biggest stars of the 80s playing aviators, Tom Cruise and Richard Gere. So, there you have it.

The power of cinema to build your narratives – the fact that US Navy could project a larger-than-life image. Not that the US Navy is a small force but the fact that they could overshadow the US Airforce and have them worried about the way they were perceived; that is a very big lesson for us. And that is something the Indian Navy can take note of. The fact is we need to have more maritime themed movies. You have very few navy themed movies though the subjects are many, Royal Navy mutiny, the stories of 1971 war, IPKF; unfortunately, they have not made it to the big screen. The Navy and the maritime communities in search of a narrative and till the time this narrative does not come to the big screen, I think we will be debating this in more such seminars.

Cmde Prakash:

About the second part of the question Sandeep. How can the people be made aware of how their lives are being affected by the activities at sea?

For example, you cannot compare Seychelles and India, the scales are quite different. But I remember in Seychelles, the shipping schedules are published, and people know the cargo coming into the country. There are times when a ship does not come or gets delayed, they completely run out of certain goods or they disappear from the shelves. So, people are worried about what comes or does not come from the sea. We hear a lot of statistics like 80% of our trade by value and 90% by volume comes by sea. Somehow the man on street does not perceive that disruption, how it affects them. What do higher echelons think about this?

Sandeep:

I think the problem is that India is a continental power and maritime power at the same time. There are very few major powers in the world that are both.

Unfortunately, in our case, the continental aspect dominates the maritime aspect. If you look at the break-up of the defense budget, it gives you an idea of this that the army commands over 55% of the budget, the air force gets 25% and the navy gets only about 15%. And this would roughly be the mind shares of these three services whether it is on land, the air or in the sea. This is the mind share it occupies in Delhi as well. I am taking a very long-term view of this. Till the time we do not settle our land-border dispute (5000 Km of disputed territory and we are extremely land-focused because of this), I do not see maritime consciousness coming up the way that it should.

You mentioned earlier that the Marathas controlled Delhi but never sat on the throne of Delhi, and that was the only time you had an Indian power that had a navy of some repute and that could sit on the throne. Unfortunately, they did not do that and we lost our independence soon after when colonial powers came and ruled over us. Since then we have been excessively land-focused, as right from independence all our wars have been at land (basically air-land battles) and our entire focus is on land borders and not enough towards the sea.

All the factors/stats you mentioned are correct (sea trade 80% by value, 90% by volume) Indian Ocean is very important region today but the problem is until the enemy is at the gate or there is a severe problem like SLOCs are threatened, there is no great awareness about that. This dichotomy of the continental power-maritime power is a big dilemma.

Cmde Prakash:

Dr Naina, during the preparation for this webinar, I remembered something from my childhood with a lot of pain. In rural South Kerala where I grew up, my right next door neighbour, a wrinkled old man asked me “Have you joined the Navy?” I answered “Yes, I am Lt Prakash now”. He is someone I have seen since I was in Sainik School, NDA and now an officer. He was 40 years older than me. He had his old wife with him and sister there in the house.

I came to know later that he was in the Navy. But by the time I got back to Kerala for my father's retirement, he had passed away. Now that is when I came to know that he was not getting his pension. And I wondered why? Then I came to know that he was one of those men from the navy who were involved in the naval mutiny.

You have spoken and written on, the topic 'Decolonisation from the Seas: Mutiny in the Royal Indian Navy, 1946', which won you the Sir Julian Corbett Prize in Modern Naval History for her article, by the Institute of Historical Research, London in 2018. Can you please tell us more about this?

Dr. Naina:

I will start off from where Cmde Prakash ended when he dropped off ie. The Royal Indian Navy. Also what Sandeep said about the visuals of seafaring through popular culture.

I will agree that this has not taken center stage after 1947 but there are interesting precedents just before 1947 during the war in the recruitment drive for Royal Indian Navy where the Royal Navy in England was a publicity shy service; they saw publicity for recruitment as a vulgar propaganda, so stayed away from that. In India, the case was different since there was no conscription. It was a volunteer service, and they were forced to go on this publicity drive. The kind of material they produced is interesting as they are faced with this continent that they must turn into a recruitment ground which is largely land bound (so they have to spread the recruitment to the interiors or heartlands) and illiterate. Their whole campaign thus had to gear towards making populations which had never seen the sea, able to imagine it but in a way which was not a written propaganda as they would have in Britain. Hence it had to be largely visual. So, they came up with imaginative ways of doing that and embarked on a very energetic campaign with the arrival of a flag officer commanding RIN (Adm Godfrey – also the Adm against whom in a way the mutiny took place). RIN grew to its size owing to such publicity.

The kinds of things they did were to build life size models of warships which were constructed at places far away from the sea like Rajasthan where they would have a real life-size ship model to give a sense to the people of what a ship looks like. In cities, they commissioned British and Indian directors to make publicity films. There is a wonderful archive called the British Pathé, on which some of these publicity movies can be based. In villages (this is my favourite part of the visual publicity campaign) they had magic lantern shows which they would project by the headlights of running tractor by night showing images of sea and ships and so on. It was very imaginative. They got George Orwell to work for the ministry of information in London because he was born in Motihari, Bihar and was familiar with India. So, they went on this energetic drive to create this popular imagination of the sea and I think to be able to go from this heavily weighted idea of continental power to a maritime power also needs popular imagination (a shift towards the sea) from the heartlands where people had not seen the sea for generations. So, the question is how do you do that?

History has some interesting ideas. RIN mutiny is very interesting. The independence movement has been looked at largely from the land so the fact that the navy is the silent service is

not limited just to the armed forces, not just in public imagination but also in universities and academics. The sea occupies a marginal position. And I was interested in looking at what does the independence movement look like from the sea? On land we know there is the non-cooperation movement, the civil-disobedience, quit-India and so on. But what happens when you invert that perspective?

The RIN mutiny is interesting in that sense because you can look at the whole period from the seas. And it looks like this. Since we are talking about naval publicity and recruitment propaganda; it looks like they were recruited through this propaganda to join the navy, see the world, learn a new trade, it will stand you in good stead once you are demobilized after the war. They join the navy and they see a world in which there was colonialism and also increasing wide spread anti-colonial movements during the WW II. They also saw how the war did not end with the victory over Germany and Japan and continued to keep hold of the colonies of the allied powers, Britain, France, Netherlands (Netherlands by the way had lost all their possessions to Japanese occupation). They see all this. They meet freedom fighters in other colonies eg. Dutch colony of Indonesia. As a consequence, the RIN ratings see all of this and come into contact with freedom movements and what is well known is also that they came into contact with Subhash Chandra Bose's INA when they were sent to Burma, Burmese theatre of war where the Indian Army was really on the backfoot and Japanese army was advancing towards the borders of British India. Once the Japanese forces surrendered there, the INA Troops also surrendered and many of them were brought back on a RIN ship as prisoners back to India. And this allowed for a lot of interaction aboard these ships between RIN ratings and some of these INA men. They were inspired by them to the point that some of them said that this was the path that led them to the mutiny of Feb 1946. It started with British Admiral using racial abuse against some of the ratings. The ratings in HMS Talwar (present day Cooperage in south Mumbai) refused to take their meals. It was a radio signaling station, so they used their training to radio-signal the whole fleet to say that they were taking this action and they were doing what INA had done. And this spread to the whole RIN fleet. Bombay at the end of Feb 1946 was surrounded by a navy which was saying to the civilian population that look we sympathize with the freedom movement and we will not allow ourselves to be used against the movement and we are joining you.

It is very strange that this has been forgotten completely. Next year is 75 years since the RIN mutiny and it is arguably the last united anti-colonial movement. It served as a great level of communal unity on the streets of Bombay. It was the last spark of the anti-colonial movement before the subcontinent plunged into a situation which ended up in partition. There is a big question why it has been forgotten?

Honest to say that one of the demands that the mutineers made was not just about their food or faster demobilization. It was also for the release of the INA political prisoners, for British to leave India, British to leave other colonies and to stop assisting other colonial powers in suppressing other freedom movements in places like Indonesia and Egypt. So, the idea is that the vision of the anti-colonial movement was a broader one because it was maritime and it was informed by the wide-ranging mobility at a time when the freedom movements were intensified. It can be understood better only when you look at it in terracentric terms. So, a maritime perspective gives us this wider global lens through which to understand history. So, it's not just that history is

required to understand the maritime present but also that the maritime perspective is incredibly important to completely change the way we understand and look at history.

Cmde Prakash:

Cdr Ninad, Tell us about 'Dharohar' – The Heritage Museum at Mazagon Dock Shipbuilders Ltd., Mumbai, which I understand you have had a major role in setting up. What are the aims of this initiative and how do you plan to achieve those? You are also a member of the Managing Committee of the Maritime Mumbai Museum Society which is setting up a Maritime Museum in Mumbai. Can tell us more about it?

Cdr Ninad:

I will take this question in two parts. I will first talk about the museum at Mazagaon docks. And then I will talk about the maritime museum in Mumbai.

Coming to *Dharohar*; it is now well recorded that the maritime heritage of India spans 4 millennia, 4000 years of recorded history starting at the dry dock at Lothal, which dates back to 2300 BC. And there are other instances which are not well known. Eg. Alexander the Great, made it into India on land whereas his army returned to Macedonia or Greece (part of the army) by sea and the ships were made in India. Also, we have heard of Marco Polo; the great Italian adventurer who traveled over land to China but what is lesser known is that on his return journey back to Venice, he travelled by sea and he touched the port at Thane (Maharashtra) and left a description of ship building and ships that were being built at Thane in his memoirs.

This is the kind of history that is captured at Dharohar. Dharohar is based on shipbuilding with specific reference to shipbuilding. Now the city of Mumbai had a thriving dockyard, since the 1700s. It was known as the Bombay dockyard. More than 600 ships and vessels of varying description were in one city, in one place; it is itself a record. And thirdly, the industry of shipbuilding continues in its original form, may be the technology and types of ships have changed but shipbuilding till this date continues for almost 300 years, probably the oldest industry and industrial activity in Mumbai (ship repair too).

Dharohar was an endeavour to capture the history of shipbuilding in Mumbai. Since Mumbai is known as the financial centre, in 1800s it became a cotton trading centre (also opium not spoken much about) it had a thriving ship building industry perhaps the biggest. Ships were being built for the Royal Navy here in Mumbai. More than 31 warships and frigates were built here in Bombay and exported to UK for sailing to America. We know about HMS Mindon and how the American national anthem was written onboard. We know about HMS Trincomalee and celebrated 203 years afloat (in good condition, wooden hull) These ships were made in Bombay dockyard. Make in India, which is the buzzword now, was happening in Bombay since 18th-19th centuries. Dharohar is a museum that captures all this; some famous ships that were made here and sailed into the history books, how technology changed. Because of the invention of steam engine, steam ships, Bombay became the gateway to India in the 18th century with the opening of Suez Canal and had large geopolitical implications. Dharohar captures all this right up to the most recent ships. So, over

a period of 300 years the ship technology changed from sail to steam to diesel to gas turbine and combine mode of propulsion. It is an interesting museum.

As part of the research, I was in London at the National maritime museum in Greenwich. To my pleasant surprise, all the drawing of ships built in Bombay are curated there. All the ships that were built in Bombay, the drawings somehow; have landed there. They were kind enough to share it with us and we have adopted and displayed in Dharohar.

Dharohar is situated in MDL, which gets many visitors; international and domestic. Lots of MPs, foreign delegations, eminent personalities visit MDL. Though it is not open to the public, but it is a place where the visitors are shown maritime heritage which spans almost 400 years. That is the story behind Dharohar.

Coming to our maritime museum Mumbai society. It is an initiative by citizens in Mumbai. MDL comes under MoD and is a restricted area, therefore museum cannot be open to public unless with special permission. But to highlight this for a common citizen, is a group of citizens who have come together to form this MMMS. The aim is to create a maritime museum for the city of Mumbai in particular. It is going to adopt the I3 model – Introduce, Involve, and Inspire....To introduce maritime history and heritage, to involve people and to inspire people. The way it has been planned is to ensure maximum involvement of common citizens; it is not exactly display museum, but it will be more about giving people an experience. Sort of a pop-up museum; you don't have time; the museum will come to you. Towards this end, we have started this initiative of likeminded citizens; we hope this movement will gather steam. We are in talks with Mumbai Port Trust to give us some space because we thought it would be best to have the maritime museum by the sea. This is the overarching plan to introduce, involve and inspire to bring out our maritime heritage. Most of the history is territorial; but for 4000 years India remained a maritime power in the world, this needs to be projected. That is the whole agenda, it is a not-for-profit society. It is being registered as a trust so that it is self-sustaining. We are looking at corporates for donations as part of the CSR which permits donations towards historical and heritage monuments. And that is where our main outreach is like. This is the rough plan and not restricted only to maritime history but also oceanography, ecology, the marine environment, how history has affected the city and made it gateway of India (not the structure, it was Calcutta before Bombay) So, there is a lot of history (4000 years) to tell people. We just want people to be introduced to it, involved with it, and inspired by it.

Cmde Prakash:

Sandeep for a connected question. Ninad told us about the three 'I's. About 20 years ago, I went for a lecture, IY college (Ismail Yousuf college in Jogeshwari).

I suppose it is the biggest college in terms of land; 54 acres of land and that too in Mumbai. After the lecture, the staff hosted me for tea. I asked them whether they had ever come down to Colaba or seen ships, museums, or merchant ships. They were not even aware of any news. Later I realised that our penetration into the vernacular world with our news and the way we spread our narrative is lagging.

Since you are someone who is connected to the news as a journalist, how do we get someone who is right there at the gate of the museum with artifacts lying there? How do you get them into the mainstream?

Sandeep:

The Navy is more suited exactly for what you mentioned, because IN is a combination of hard power and soft power. Its reach is phenomenal. The way IN have been ambassadors of India across the IOR and beyond is remarkable. They have the capability and reach that none of the other two services have.

The advantage with the navy has is phenomenal. But again, I am coming back to the point I made earlier, that we have been looking outward for far too long, we haven't been looking inwards. Now, there is a need for this maritime consciousness. And you are absolutely right, it should not be in English. We must be addressing Indians across the board irrespective of languages. We should be language neutral, meeting and addressing them in different states, provinces in the languages that they speak and not just for English speaking elite. We must build museums of the kind that Ninad was speaking about. Even if we could do what Naina said was done in the WW II creating replicas of ships inland, far away from the oceans; it is not for recruitment but for maritime consciousness. And I am saying the IN because I do not see any other organization that has the capability, reach, and the potential that the Navy has; not to forget the manpower; the very enlightened set of individuals that run the IN, exactly the kind of officers that set up the Naval Air museum in Goa or the ships that have been taken ashore, the missile boats that have been preserved in Bombay, along the coast in Cochin and not to mention (what I call the manmade wonder in India) the Kursura Museum in Visakhapatnam. That is a huge thing. I mean it was a city that had no tourist attraction and suddenly it had a tourist attraction that puts it on the map of the world. You need something like these, huge artifacts (what Ninad was mentioning), the experience; give people that experience which passes through the word of mouth. I mean only the navy can do these types of things. The experience of being on a naval warship or a naval submarine or a naval aircraft carrier is something that none of the two services can replicate. It is astounding. If you go to inside the Kursura museum, for instance or stand on the deck of the old INS Vikrant which we lost unfortunately; that is an experience that will stay with you throughout your life.

As a naval child, I remember the first time I stood on Vikrant as a five-year-old and that experience has not left me till date. It has been almost four decades. These are the kinds of things that the Navy should be looking at. Essentially, this is something that we lost when we decommissioned the Vikrant. We lost it after that fantastic tenure it had as an Indian Museum Ship Vikrant in Mumbai. Fourteen years that ship was a magnet; one of the very few aircraft carrier museums in the world and I think when that ship was finally broken up and decommissioned; a part of IN went away with that. Today if you look at that apart from the one submarine on the beach of Visakhapatnam; the navy has nothing to speak about. There is no big artefact; there is no big experience that you can offer. Again, I am talking about it purely from the perspective of the navy. I am not talking about for the entire maritime community. The Navy is only a part of the maritime community; but it is a significant part of it and that is why I think the navy should be driving this movement for maritime domain awareness. You already have a concept called maritime domain awareness, but if you can invert it slightly and use it to explain a concept which is enlightening your countrymen about maritime domain itself. So, it is an MDA with a difference.

Cmde Prakash:

Once when my ship was in Cyprus, Couple of us went to Troodos Mountains in Cyprus and stopped for tea. Naturally, we interacted with the locals. And they were quite amazed because usually Indian warships do not land in Limassol in little Cyprus. There were a lot of things that we must have changed in their perceptions of us through our interactions.

You have a special pastime, you have driven all over, and after Thailand, you are now poised to drive to England. You would have also met a lot of people. In your interactions, how maritime conscious they were you think? How maritime conscious about India did they become in their interactions with you?

Capt Suneha:

The last drive was from Mumbai to Bangkok, Thailand and back. Talking about the maritime consciousness of the people over there....First of all, they are surprised about international border crossing, people visiting their country. Somehow when I was visiting Myanmar, although there are people and officers from Myanmar who are sailing, which I came to know, not that they told me. In the profession, they saw as the captain and they were asking how that happens. They had not seen a woman serve in that profession and at that rank.

Somewhere I think that needs to broaden. But if you see the culture of that country, they are so humble and want to protect their culture. It is a good thing in a way. When we were travelling on the roads there, I saw they have least knowledge that someone can cross over from India.

When we went to Thailand; Thailand has major ports, so it was busy. Overall, I would say that the consciousness regarding maritime industry outside India and even within India is very less. People do not know what ships do. In the defence sector, everyone knows who is a captain in the Navy? But the commercial aspect of it is less known. I personally feel that the awareness among school and college students about the maritime nation that India is must be brought up; the kind of coastal length India has. That is where the future lies. We need to bring up awareness there. As Sandeep Sir mentioned about movies. There is none. I only talk about one serial that I have seen; but certainly, there is none. Maybe these are the kinds that can bring awareness.

Cmde Prakash:

Dr Naina, a two part question to you. The papers I read, stated that sailors, because of their experiences at sea and in various parts of the world, became radical, egalitarian etc., and brought these ideas back home, on retirement. Since these people were from many parts of India, including the Hindi heartland, how did they influence the society around them?

Second part now. There is a Malyalam movie called Bhayanakam; it is an award-winning movie about a youngster who loses a limb while fighting in the WW I. Then he gets a job as a postman and now as a middle-aged postman, he is posted to a little hamlet in Alappuzha district in Kerala and he goes from village to village delivering mail. Now, recruitment is on for WW II. It is not about India but about employment, so people line up. This postman watches this with a lot of pain because he knows what can happen there. But for the families it does not matter, it is about

money. As the war starts, he starts delivering mail; he is a welcome man in every household because he delivers money order. As time goes by; he starts delivering death telegrams and finally he becomes the harbinger of tragedy. He is driven away by the villagers.

Initially I asked you about people coming back with ideas of egalitarianism, radicalism and how that has shaped the consciousness of the society. How such negative facts have been brought back into the society and how it affects the society?

Dr Naina:

It is an interesting question how it affects the society. It is not unique to India. Wherever there have been instances of war, there have been big implications on the society. From the WW I onwards, the return of soldiers shellshocked. After the WW II, the return of soldiers especially black soldiers had effect on the black consciousness movement; they fought for America against a fascist enemy and they were not getting their share of democracy after they returned. Similarly, after the Vietnam war, the returning soldiers from Vietnam had a drug problem (used by Nixon as a political issue in the 80s) So, the effect of war on societies are quite profound in some ways. Freud made his entire study on a post war society and the effects of trauma on returning soldiers.

In India there has not been much research or scholarship. It is difficult to say how that impact played out on returning soldiers because you cannot time travel; you must look for more indirect clues. One of these is letters preserved from the soldiers who were writing back to families and friends, largely in Punjab and Nepal saying that things are bad here and do not enlist. It led to a drop in the enlistment numbers during the WWI. We also know that those who were taken POWs were also exposed to German and Japanese propaganda which concerned British heads of the armed forces in both the wars.

In the WW I, they were allowing Indian anti-colonial organisations to conduct propaganda in war camps. During the WW II, there was German and Japanese propaganda; Germans occupied east Africa and Japanese in south-east Asia which again was a big security concern for British because if this was to be a matter of the hearts and minds; then the enemy had an advantage in criticizing the colonial power.

As for returning soldiers, it is interesting how after a war is over, the effects of war play out in the society? There are studies after WW I that have drawn a connection between non-cooperation movement and returning soldiers. The famous Chauri-Chaura incident where Gandhi had called off the non-cooperation movement because people near Gorakhpur (Chauri-Chaura) burnt down a police-chauki. Many of these people who were involved in burning down the chauki were the returned soldiers from the WW I. The feeling is that you volunteered, you have come back, you are unemployed, you have got no justice. That is something that comes about in the aftermath of war. Across the world, large political movements have followed the return of the mobilized personnel. In India, you see the first mass movement happened after the WWI and after the WW II and soon after you have the independence movement.

Some of the returning soldiers did write memoirs and what comes up in a lot of them is an experience of having served with men of the their navies and the comparison of how they were

camped in a marshy land whereas the others were given camping facility, separate messing facility, where the white men got better rations, victuals, and these guys were given the bad stuff. So, that is something that really rankled with them and fed into the consciousness of the need for the moment of reckoning (that we are the ones who had to fight the war and win it and now we do not need you anymore). That sentiment comes through from some of these memoirs.

Regarding the mutiny, it is officially forgotten in histories, but it is something that has lingered in the popular memory a lot. You yourself mentioned this known figure from your town....But it has happened across many parts of India from where these men were recruited. They came back as hero figures who have been done out of what was their due and it comes up in art and literature and quite a lot and for a long span of time after the mutiny in 1946. It comes out in this novel by Yashpal, Sahitya Academi Award winner, which was written in 1946 in the backdrop of the mutiny and comes up again in 1965 in a play written by Utpal Dutt in Bengali called Kallol, the sound of the waves. It was banned in West Bengal but continued to run to a packed audience despite that showing the resonance even 20 years after the event. It is tremendous. Coming to Bombay also, there is a Marathi poet called Narayan Surve who wrote in 1990s a book about RIN called Usman Ali. There is atone which says we thought we were making a different kind of India, but we were cast out of that. They did not receive their service pensions; they were treated not as freedom fighters but as hooligans. The feeling that they contributed to making history or winning the war or playing a part in decolonization, they were not given their due or that kind of recognition. I think that kind of a sense of pride in what they did but still being left out was quite widespread in the soldiers at the time.

Cmde Prakash:

Cdr Ninad, a question for you. Why a separate Maritime Museum Mumbai Society (MMMS) to divide the awareness effort and get a maritime museum in Mumbai? Why not simply support the Maritime History Society (MHS), which has been in existence for long?

Cdr Ninad:

I was expecting that from Cmde Johnson Sir. I think there is a plenty of scope for collaboration between these two organizations. This is simply to set up our museum that these citizens have come together and I foresee that our two organisations can collaborate because there is a wealth of data and artifacts with MHS. We do look forward to collaboration between the two. In fact, when I was setting up Dharohar, a lot of things were taken on loan (ty loan as they say in the navy) but that was before Cmde Johnson's time. And yes, there is lot of scope and we hope that we can collaborate in the future.

Cmde G. Prakash:

It was a wonderful session, hats off to the organisers for selecting this particular panel. Journalist, seafarer, an academician and a naval officer and a curator. All this talk on consciousness is good because it keeps us going in order to make our sea power worthy.

In Seychelles, ten years ago, the French officers who were posted there to protect the fishing communities in those waters mentioned that the marine wealth that we harvest is a fraction of what we have.

The tragedy of war is that it lets man's best to do man's worst. So, we have had millions of men who left the country and participated in wars of others. They had the potential to bring the knowledge back into the country. They came back to raise the consciousness of others. They are people who come from different fields be it naval seafarers or merchant marine seafarers; how much it translates into maritime consciousness is a different matter. Awareness may not be consciousness entirely. The two are very different. And unless it influences the leadership, it does not become useful consciousness. I thank all the panelists for being around and speaking with passion. I thank MHS, MWC (Mbi), IMF and all other organisers of this event and having given me this opportunity to moderate.

Summing up of the Proceedings

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VAdm Pandit, VAdm Srinivasan, Capt Bahl, Capt Dixit, our four outstanding moderators Cmde Chitnis, Cmde Johnson, Cmde Prakash and Capt Parmar, our special guest Adm Nick Lambert, our most distinguished panel of speakers, ladies, gentlemen, all attendees of this webinar, you will all agree that it has been a fascinating session. It has been long and exhaustive. It's been fascinating in the range of issues discussed across the maritime domain. And therefore, summing up what has happened right from morning until now is going to be a huge challenge, but there are so many interesting things that came up. I will be failing in my duty if I did not pick up so many ideas that came across all our moderators and speakers. So, I hope I will be able to steal a little bit of time from both Cmde Prakash and VAdm Srinivasan who is going to follow with the valedictory, so that I can put across, particularly for the people who joined in late, as to what transpired right through the day. Ladies and Gentlemen, I want to begin by acknowledging two very eminent people connected to maritime consciousness in our country.

One was mentioned by Cmde Johnson in his talk – VAdm MP Awati. It so happens by coincidence that today is the second anniversary of his passing. He passed away two years ago on the 04th of November. And I think it is a very fitting tribute to the grand old man of maritime history that we are having this session today. I think I would be remiss if I also did not mention Cmde Rajan Vir, the force behind the IMF in many ways, the person who has been our companion throughout past editions. He is now the President Emeritus. Cmde Rajan Vir Sir, a big salute to you from all of us for starting this.

Ladies and Gentlemen, Cmde Ajay Chitnis when he was starting and bringing out his moderation, talked about the events happening today. There is the exercise MALABAR going on, there are the elections in the US and the elections in India in Bihar, the IPL is going on, today is Karvachauth and there is a media personality making news separately. In a sense when you are having this Webinar, when so many things are happening, it frames the debate. It tells you how difficult it is to focus on aspects like maritime consciousness or awareness when the human mind is caught up in so many other 'distractions'. That frames up what our challenges are.

We had a wonderful, crisp opening session wherein Capt Dixit began by talking about the need to raise maritime capability and consciousness. He compared many other nations and talked about how India can do that. He began with the note that 'I cannot believe that India cannot achieve this' not only with optimism but also a sense of desperate cry that we should up our ante and bring up our game.

Capt Bahl followed similarly when he talked about the nuts and bolts of what Capt Dixit had brought out. His summing up with an invocation of what it means to be an Indian and an Indian Mariner, how every mariner has got to do his duty towards raising maritime awareness was inspiring. VAdm Pandit while bringing out India's maritime past, also asked us to introspect and

highlighted a few questions on how we ought to tighten budgets and how we should get our act together. He also very deliciously left a question for all of us: 'Is maritime consciousness intrinsic to sea power? Or can it be achieved without it?' As brought out by a few examples of nations in the last century and this one which do not have maritime history or consciousness but have become significant sea powers.

With that as the backdrop, we moved into session 1 with Cmde Johnson as the moderator. Johnson is an ideal person as he has spent time in the Merchant Navy and then in the Indian Navy; and then he moved to the academic world where he has done PhD and written extensively. He set the stage in motion.

Cdr Athawale, who followed, brought a grand historic sweep to this whole subject. He, interestingly, began on how in pre-colonial and colonial era, there were collaborations between Indians and Europeans. He brought out examples of Shivaji and Hyder Ali, bringing out that even as there was resistance and defiance of colonial power, there were also examples of collaboration, possibly the first example of maritime services because a whole lot of these issues were maritime bound. But he also in his historic scale, moved across a wonderful canvas of opium wars, indentured labour, travel by Army in the expeditionary forces, the Erulkar collection, and in doing so (remember that most of these things happened in 17th, 18th and 19th centuries), he talked about how all this possibly enhanced maritime consciousness in India. He then brought out brief references to the Navy's sea power journey and the creative tension between the sea faring philosophies or maritime philosophies of UK and Asia; and how these have been reconciled. He made an interesting mention of how Shri IK Gujral was impressed by what Admiral Gorshkov said and we need more research about such interfaces between political leaders and senior military and naval leaders, a point I made in a seminar about a fortnight ago. That is one area where we seem to lag a bit in terms of research.

Cmde Sandhu nicely brought out the significance of 'Offshore'. Offshore is a pearl in the maritime necklace and perhaps with good reason when you are offshore drilling for oil and natural gas which is the black gold, important for economy; then of course offshore will figure as an important aspect of maritime activity. He rightly identified our stakes in offshore to be exceedingly high, and he talked of seriousness for the offshore. He raised questions that while we are a maritime nation, we have not been seafaring nations, you don't see people put a yacht out on their cars and go out to sea, you don't see a sense of adventure, I think it is a point well made, though it has been made before.

Capt Kamat pushed-in a sense of realism in this debate. He began by saying "All this heritage is great but what is important today is where we are today". He gave a wonderful reality check, to the fact that today there are lots of aspects of sea power that we need catching up to. E.g. His statistic of 7% goods carried by sea and almost 80% being bulk or petroleum, India carries less than half of what Japan carries in coastal traffic is a cold reality check. And the fact that the cost of transportation by sea is higher than by land in some cases. We need to do something important because certainly there are advantages to coastal transportation: less population, less congested roads and other advantages. Ideally, it should be the cheapest way.

My friend Ashish Mehrotra from the Coast Guard brought out again a very grand canvass when he began mentioning that coastal protection as done by entities like the Coast Guard is not merely about the protection of the coasts, it is also about preserving our biodiversity, it is about safeguarding our range of interests in the maritime world. He very beautifully framed the debate between development vs. security and gave examples of how IUU (Illegal, Unreported and Unregulated) fishing impinges on both. While it is a security issue, it inversely impacts development. He brought the case of poly-metallic nodules and how we have had to surrender some areas and he brought out how the technology required for the extraction of these nodules must be both viable economically and environment friendly. Getting this balance is what is needed for the future of maritime industry. He mentioned aspects about island tourism and he made a remarkably interesting suggestion that the NITI Aayog should be involved in making maritime plans and thinking about maritime issues. It is probably a very interesting, offbeat suggestion.

He was followed by Cdr Arnab, PhD from IIT Delhi, who has set up a think tank. He talked about challenges of making MDA and under-water Maritime Domain Awareness known to various people. He bemoaned the fragmented approach that we follow. According to Arnab, there is enough talent within the maritime community, enough knowledge, but it is fragmented. He also got into the environment vs development debate further with a very poignant picture of whales on the beach. It told a story. He said, “Look I am not a showstopper, I am not a party pooper. I realise we need to have a range of maritime activities but there is sustainability required”. He brought in the theme of mapping shrimps and mapping ship noise and the range of activities that MRC has done. Fittingly, he began with the story of the indigenous SONAR, one of the Indian Navy’s great achievements in developing SONAR for its waters. He is now having his own indigenous think tank which is producing knowledge. It relates to what Dr. Malini said in the next session about knowledge generation; and how if we have to be leaders in the maritime industry, we must have cutting edge knowledge generation and I think Arnab is doing that, though of course he is facing a lot of challenges in this regard.

So that was a wonderful first session where we had a lot of practitioners and their perspectives, leading naturally to the second session on certain policy issues. Cmde Chitnis began talking about things happening that day. He also flagged that a maritime policy needs to be clear, transparent and most importantly, simple.

Dr. Malini gave a government view or the establishment view when she slightly differed with others implying that there was sufficient cooperation among all stakeholders and brought out a lot of examples of that. But in her opinion, the problems in Indian maritime canvas related to very little tonnage as a percentage of international trade.

Second, as the number of seafarers has increased over the past few years, she talked of amendment to the merchant shipping bill which might make things easy. But she also said a couple of interesting things. She said we could perhaps look at enhancing hydrography training and what the navy is doing to make that knowledge available outside the navy for everyone. She also talked about commercial chartering of ships being available to the Navy and Coast Guard people. She mentioned about the need to develop salvage capability and the need for us to do that indigenously because while the ship gets away because of insurance, it is the shore which often suffers the

problems of pollution. Essentially, she talked about the need for all stakeholders to tango. She also brought out the issues of floating armouries. She was followed by Capt Subhedar, Extra Master. And as Cmde Chitnis says of him, “if he doesn’t know anything, that’s not there in the maritime policy”. I think Subhedar Sir was very brief, crisp and candid when he argued that maritime development was simply not enough, what the government has set out. Most importantly, I think he said it is an over regulated sector that needs deregulation at every place.

Cdr Nevil Malao followed that with more reality checks, while he balanced it when he said that there’s much that has happened over the years. He brought out that not one of our shipping companies is in the top twenty and he brought out the various problems that exist in our cruise industry which if given encouragement can really bloom. But he said that there was no support to the cruise industry. For example, in coastal cruising, we have some delightful destinations but there are infrastructure problems in smaller places. He mentioned that seven times the bid date has been extended. Interestingly, he talked of paperwork where you needed to have 12-13 copies of passenger manifest in different places. This is a sort of bureaucracy, I guess, very many people wonder about in India, and he flagged all this.

That’s about the time we experienced some power and net breakdown here when Capt Khatri and Ms. Rupali joined us. The fact that it was not evident to you is of course a tribute to my team. But we missed out on listening to a few things. But I do remember Capt Khatri talking of, as we shifted into data on our phones, of shipping as a silent service. In the navy, we talk of the navy as a silent service. Capt Khatri with whom I have had some excellent interactions during the piracy days in Nairobi, talked about the entire maritime fraternity being silent. In a sense that is true because we are beyond the gaze of the *Aam Aadmi*. Beyond the dockyards and ports, there is a different world. He then, later during the Q&A, mentioned about sixteen new transportation routes under his jurisdiction which I think is an extremely encouraging development. As far as Rupali was concerned, she gave us a maritime services perspective, particularly useful ones. She made a very revealing statement when she said that the ship owner celebrates only two days, one, the day he buys a ship, the other, the day when he sells a ship, in a sense, very nicely illustrating numerous problems of owning a ship and all that it entails within our ecosystem. She mentioned about the needs of marinas and other infrastructure services, she brought out that nobody will buy cars if there are no petrol stations or parking lots and the same is true for boats and yachts. So, maritime services and infrastructure needs to be developed hugely in our country is what this session seems to have suggested. Dr.Malini in her closing comments brought out certain remarkably interesting aspects about institutional capability. She made a very wonderful suggestion when she talked of a Sea-Congress, a Congress which puts all maritime people, practitioners, domain experts and stakeholders to discuss and deliberate on maritime issues. I think seminars like this are our small plenaries towards those Congresses. I hope that people up the chain and echelons can take this further.

I will go to Session three before going to RAdm Lambert.

We had Cmde G Prakash, the brilliant veteran, the great writer-author and history person of great understanding bring out two counterfactuals; what if the Cholas and Marathas had lingered longer in the northern Gangetic plains, could our outlook to sea have been different? Of course, as

academics, we delight ourselves with such counterfactuals without getting any great answers to that, but it frames questions very well. What is interesting is how each of the panelists talked about ways in which they were influenced.

Ninad talked about how working in Angre and precincts of Naval Dockyard in Angre ignited his knowledge. Capt Suneha talked of *Aarohan*. This in a way tells a big story. I think *Aarohan* was not a much-seen TV serial on Doordarshan with Pallavi Joshi in a central role. But the fact that one small, not too well-known TV serial, can influence someone who in due course of time becomes the first woman captain of a foreign going ship, tells us the part of mass media and movies that Sandeep later talked about – the search for a narrative. Sandeep himself comes to this in terms of meeting passionate people and understanding history. Here, we have the nuts and bolts about what is needed; you need good precincts, you need to go out, you need to spread the maritime word and you need engagement across social and mass media.

Dr. Naina framed the maritime issue against a much larger academic canvas when she talked about larger political and social worlds. And interestingly, she said that “Look, seas must not be looked at merely as a carrier of ideas without themselves in some way being influenced by those ideas.” I think that is a very important question. Actually, if we go back to our maritime heritage, whether it was the cultural ideas of Hinduism, whether it was Buddhism, whether in later days it was the ethical framework of Islam or much later when the Royal Navy actually stepped in to stop slavery, I think political ideas have in some ways associated with cultural and economic ideas and existed on the ships. The seafarers might not have spoken about them but there are probably areas for research to look at how those ideas affected, whether through maritime radicalism as she brings out or in some other ways. But the fact that, in some sense, these ideas (I mean while Naina talks about ideas on the maritime world, Suneha represents the fruition of that idea of empowerment of women whereby now they can go to sea independently) frame the two different ways in which thoughts in the maritime space get reflected through personalities and protagonists is interesting.

We come to the Prince of Wales Museum, now CSMVS. Mind you, CSMVS had a maritime gallery for about three years after the middle ground gallery wound up. The MHS, which has done some outstanding, sterling work in taking history across, first through the middle ground museum, then through the CSMVS and then through their galleries later and not merely a pop-up museum. MHS is regular every year at the Kala Ghoda festival, it is at numerous other places like PFR/ IFR, has made exhibitions or installations, apart from speaking to people, taking heritage to people and conducting the Dockyard walks. There has been a lot done but there is no doubt a lot more needs to be done.

Suneha talked about maritime issues not being part of the syllabus. I think this came out in the previous sessions also. And one of the big takeaways that we should consider recommending is how the entire maritime realm – maritime heroes, maritime icons, maritime business matters etc figure in school and college syllabus and how we extend it across to regional or to *bhasha* media/ *bhasha* schools. These are some of the important aspects. Movies, as Sandeep Unnithan brought out, the power of *Top Gun* and *An Officer and a Gentleman*; and how they still hold sway and the need therefore for us to also look at that.

Cmde Prakash brought out how while people in Seychelles are bothered about trade, even though 90-95% of Indian trade is by sea, an ordinary Indian citizen simply does not seem to notice or know that. I think in a way he is very right but in a way it is also a tribute to our silent fraternity. The biggest tribute is that we have been doing this for years in the maritime world and the contribution continues to go unnoticed and it has stayed through the COVID times also. Sandeep talks of *Mindshare* as a percentage of budget, an interesting theory that needs further research. But I think the common point is that maritime awareness must be done through these various vectors and all of them working together.

Interesting aspects about the visual depiction of RIN were brought about by Dr. Naina including how this was taken to Rajasthan and interiors. Though we are in an age of social media with lots of transparency, creativity and imagination continue to be prime requirements when we want to recruit people, and perhaps a case needs to be made on how we can do all of this. She spoke of the RIN uprising as part of the anti-colonial movement but a very broader one. Very right, but I would like to tell her yes, it is 75 years, and the Navy does not call it ‘mutiny’, it is called the Naval Uprising in the recognition of the fact that it is considered one of the contributors to the freedom movement as you said, possibly the last anti-colonial struggle before independence. We have an uprising memorial next to Cooperage, close to HMIS Talwar, which is the NT Pool of today. It was the Signal School in those days, but it has moved to Kochi and Talwar has become NT Pool. It is close to the Sailors institute and is looked after beautifully by the Navy. There are these live manifestations of various things she spoke about.

Ninad talked about three hundred years of shipbuilding. I thought he said an interesting thing when he said that you do not see but experience museums. That is true. Museums in India have tended to be static. When you go abroad, you see a lot of technology and hopefully in the future we will bring this. I had the opportunity recently to talk to a set of people doing a museum course but a whole lot of it depends upon our concept and imagination on how we want to disseminate history. In case of the Army, it is easier. The regimental histories become their history. In case of the Navy, since we are heir to both the professions of soldiering and seafaring, there is a much wider canvass that we must cover when we talk of museums. Having said this, Ladies and Gentlemen, people are right to ask the question “Look, the Navy at the end of the day has to concentrate on core competence area about hard power, about being at the sea and socking it to the enemy when it is required. I am saying this because Sandeep made a very impassioned plea and rightly so, when he talked of the Navy to take the lead in a whole of activities moving from MDA to MDC but I think Indian Navy through organizations like MHS, NMF and a whole lot of our outreach activities during the Navy week is doing much in this regard. There is now a need for our partners in the veteran community, for academic institutions, for enlightened citizens, for people who have attended this seminar, all of them to become maritime evangelists and foot soldiers in the cause of maritime consciousness and not leave it to the Navy alone to do the heavy lifting in this regard.

Yes, the effect of war on societies has not seen much study in India. Both Cmde Prakash and Dr. Naina talked about it. I think that again tells you a story. Why the effects of war have not been studied in India as compared to other societies and why we are taking answers from them. Few speakers mentioned WW I. Within a few days, we have the Remembrance Day when we

commemorate Indian participation in WW I and all the things we did there. Again, that is one area that has not got its due when we talk of annals of history writing in India.

Very briefly, I will talk about RAdm Lambert's session on Blue Economy where he said that Blue economy requires all stakeholders to come together and tango, the Navy and outside. Just as Cmde Prakash talked of the sea as empty spaces, Adm Lambert said that the coast must not be seen as a barrier but as an interface. I think this is something that maritime historians have been constantly talking – that we must look at the sea creatively, as an important geographic space and not as a barrier or as an empty space. He brought out the various concepts and aspects of Blue Economy. And he talked about how technology is affecting life at sea and with greater number of autonomous vehicles and connectivity at sea, much of how we have seen the maritime world is going to change. Of course, just today the US navy has decided to go back to some manual controls arguing that these are US navy ships and not iPads. I guess, the debate between AI, autonomy and autonomous vehicles and the need for a palpable physical presence at sea will be a matter of debate and can be seen. He mentioned very interestingly that imagination of geography since we see Seychelles as a small nation based on 440 sq km of land area, but we do not realise it has 1M sq.km plus worth of ocean area. We must look at it as a large ocean state. I think these are important aspects. Cmde Prakash talked about visits to Seychelles, I hosted him when he came as TS1 there, where I was fortunate to have spent almost three and a half years in East Africa, Seychelles, and Mauritius as our Defence Adviser there. A whole lot of what Adm Lambert spoke about is very clearly visible there. Different aspects of piracy too that Capt Parmar brought about, how Somali piracy is different from that in the West Coast of Africa or earlier in Malacca and elsewhere, tells you that often even when the act is similar, the motivations are different. But the way nations came together to fight piracy in the Gulf of Aden and where the Indian Navy has done some splendid work having huge number of attempts thwarted and huge number of pirates captured should tell you the beneficial effects of collaboration at sea. Capt Parmar talked about sustainable development goals and its relation to the Blue Economy. He said that when we talk of a new economy, we should pitch it in a language and manner that the political and bureaucratic apex understands. So how do we maximise benefits whereby ocean health is maintained while at the same time our development continues? He gave a triangle of government, society and science and interestingly mentioned how even land-locked nations depend on seas. These are interesting ways in which our panelists across the three sessions, the special session and the opening session laid forth a wide gamut of issues relating to the maritime field and therefore in a sense, have given certain key takeaways, many of which have come in lots of discussions, be it the question of involving NITI Aayog, be it the question of getting certain definite ways in which Indian Navy and Merchant Navy can collaborate in future or be it a sort of Maritime Congress. All these are interesting ways.

Ladies and Gentlemen, I think you would all agree with me that there were some great deliberations by all our panelists and all our moderators. I would like to thank each one of them for the work that they have put in and all that they shared with us.

Valedictory Address

RAdm G Srinivasan, AVSM, VSM

Director General Naval Projects, Mumbai

I would like to draw your attention not to the foreground in which I sit but to the background. I have specifically chosen this background which is different from the other background of the banner of the webinar. Just to use it as a metaphor. Those who are endowed with maritime consciousness will relate my background to the waves at sea, those with a continental mindset see Blue Mountains. It is in this contrasting milieu and framework we had an interesting webinar which started with VAdm Pandit, if I might to choose a few aspects of what he highlighted and ended with a similar highlighting by Ninad Phatarphekar who spoke about three Is. Adm Pandit spoke about the need for introspection, innovation, and integration to make sea power central to our consciousness while Ninad spoke about introducing, informing, and inspiring people of our heritage as a means or as a vehicle to accelerate maritime consciousness through the land, minds, and people of the large and wide country of ours.

And we explored many questions through the day. We explored the connection between maritime consciousness and the projection of sea power. We investigated the wide spectrum of maritime consciousness as it expands from the individual's maritime consciousness to the nation's maritime consciousness and global maritime consciousness. And we asked how does this consciousness gets created and how does it manifest? While we did not dwell too much on the question, we certainly did focus on the fact and asked the question if the country is biased to a continental mindset and if so how do we shift the mindset to embrace a maritime outlook. The question of how creating awareness would help in generating maritime consciousness was also deliberated upon. And it is in the backdrop of these varied questions that this webinar finds great relevance and value. The day's proceedings have investigated and dissected these wide varieties of subjects and we have heard many eminent speakers and panelists share their incisive wisdom and diverse perceptions. The medium of internet has afforded an opportunity for a wider audience to participate and I must say that I see these figures/statistics that flash at my screen, it started with 217 participants and 07 panelists in the morning, we are left with 160 participants and 22 panelists that means we have had faced an attrition of less than 20% which speaks for itself of the quality and the interest that this seminar or webinar has generated and helped to anchor the attention of a large and widespread of audience and that is entirely due to the genius, the wisdom and the clarity of our very highly qualified panelists and speakers. The webinar i.e. IN, IMF, MHS, Nautical Institute, MHS, of course, MWC (Mbi) who worked very silently in the background, have to be afforded a very special and a heart full thanks for their efforts and excellence. I am confident that the proceedings have brought to the fore all aspects pertaining to maritime consciousness and the importance of the subject to India and the world at large.

Ladies and Gentlemen, the current geopolitical and geo-economic relations are once again underpinning and underlining the strategic importance of the oceans and the impact that sea power can have in ensuring peace, stability, and economic prosperity for the peoples of the world. The maritime dimension is omnipresent. I particularly take back with me one specific aspect that Adm Lambert spoke about when he saw Lou Sydney spoke of coast as not as a boundary but as an

interface that connects the ocean and the land in one single continuum which engages in economic activity, cultural exchange, trade, and security. He made it appear as if oceans and the land were not two separate entities (which they are not) but are an integrated ecosystem. And this is center of gravity indeed, the essence of what I think, would define maritime consciousness. And therefore, I say that the maritime dimension is omnipresent, and it impacts geopolitics, economics, environment, energy, security, culture and every other conceivable measure of peace and prosperity of humanity. I do hope that the directions that have emerged consequent to the cerebral discussions during the course of the webinar, will serve the purpose of kindling and enlightening maritime consciousness in each and every one of us, and therefore, by extension it becomes our responsibility and duty for each one of us to extensively and expansively transmit this knowledge as mariners and nautical ambassadors, so that the spirit of maritime consciousness pervades every mind of our nation and results in policy and action aimed at increasingly using the seas as the potent medium of trade and assurance of national security and global harmony.

With these few words, I once again compliment the organizers of the webinar and all the participants and speakers for their invaluable contribution today. And I hope that we will once again come together at the next (8th) session of this seminar and possibly next time we will be meeting hopefully in more conducive circumstances if the vaccine comes through. Thank you very much. I must specifically thank Cmde Kesnur for giving me this opportunity to present this brief valedictory address and wish all of you all the very best.

Śaṃ No Varuṇaḥ.
Jai Hind.

About the Speakers and Editors

Capt Anand Dixit, Master Mariner is the President, Indian Maritime Foundation. He is an alumnus of Training Ship Dufferin and has had 42 years of sea service. He has command experience of 32 years and has served as master with various companies, notably Mosvolds – Farsund (Norway) and Teekay Shipping (Canada). He has commanded various types of ships which includes Bulk Carriers, Oil Tankers, VLCCs of 276000 DWT and 325000 DWT, Gas Carriers and FPSO. Post retirement, he has been a lecturer at Tolani Maritime Institute, Talegaon and the Chairman of the Company of Master Mariners of India, Pune Chapter. He has also been Editor/ Associate Editor of SeaGull magazine for about 10 years. Presently, he is a Guest Lecturer at Pune University (Dept of Defence and Strategic Studies).

Capt Kapildev Bahl, Master Mariner is an ex “Dufferin” cadet of the 1969-1971 batch and a Master Mariner. He sailed on board general cargo ships, bulk carriers & OBO/tankers including 5 years in command. From 1989 to 2016, he worked as a Nautical, Cargo & Warranty Surveyor for the P&I, H&M & Shipping Industry, specializing in Emergency Response, Risk Assessment & Claims, as well as an OCIMF SIRE accredited Oil Major Vetting Inspector. He is a Maritime Arbitrator and has a degree in law.

VAdm Ravindra B Pandit, AVSM was commissioned into the Indian Navy on 01 July 1984. A silver medalist at NDA, gold medalist and sword of honour during afloat training and winner of Thimayya medal for the most spirited officer at DSSC Wellington, the Flag Officer is also an alumnus of the Royal College of Defence Studies (RCDS), London. An ASW specialist, he has tenanted several prestigious appointments ashore, afloat and in training. These include command of *IN* Ships Nirghat, Vindhyagiri and Jalashwa. He has also been instructor at ASW school, Fleet ASW Officer Eastern Fleet, Captain Work Up at LWT West, Directing Staff at Naval War College and Principal Director at Directorate of Staff Requirements at IHQ MoD Navy. He also served with distinction as the Defence Adviser in our High Commission at Islamabad, Pakistan, from 2002 to 2006. As Flag Officer, he has been in-charge of our Foreign Cooperation and Intelligence at IHQ MoD Navy, Chief of Staff, Southern Naval Command and the Fleet Commander of the Navy's sword arm, the Western Fleet. He has also tenanted the appointments of Commandant, Indian Naval academy at Ezhimala, Kerala and Chief of Staff, Western Naval Command. He is presently the Commander-in-Chief, Strategic Forces Command.

Cdr Yogesh Athawale was commissioned in the Indian Navy on 01 July 1999. He is an alumnus of the National Defence Academy Khadakwasla and Defence Services Staff College, Wellington. His areas of interest include strategic affairs and history, particularly the maritime dimension. He is posted at New Delhi.

Cmde Kuldip Singh Sandhu (Retd) is from the Nautical Institute India (West). He took premature retirement from the Indian Navy after 28 years of distinguished service. While in the Indian Navy he specialised in Gunnery and was an Instructor, Chief Instructor and the Commanding Officer at the Gunnery School, INS Dronacharya. In his second innings, he joined offshore in Dynamic Positioning vessels and served for 12 years in MSVs, DSVs and WSVs. After hanging boots at sea, he set up DP training centre at Navi Mumbai, got it accredited to Nautical Institute London and taught budding DPOs for four years as NI qualified instructor / senior instructor. Presently, he is an independent technical DP accreditation auditor at Nautical Institute.

Capt Kiran Kamat, Master Mariner is the Founder Chairman & Managing Director – M/s.Link Shipping & Management System Pvt. Ltd. He is a Master Mariner by qualification and he started career in Merchant navy in 1971 culminating in taking command of ship in 1980. After

gaining ship & on shore experience over a period of 18 years, he established Link Shipping in 1989. In 1992 he entered headlong into the field of Heavy Break Bulk Transportation and focused his attention and started bidding for total transportation involving sea & land transports including coastal cargo. In 2015 he acquired Maria India, first RORO vessel in India with capacity of 180 trucks and 300 cars and showed how coastal shipping in India can be put to its best use. Coastal Shipping in India remains his pet project.

DIG Aashish Mehrotra is a serving Indian Coast Guard Officer. A specialist in Coast Guard operations the Officer holds to his credit a Master's degree in Nautical Science, through the Navigation and Direction School of Indian Navy. With an eventful service of more than two decades to his experience, the Officer has been the recipient of the coveted Director General Indian Coast Guard 'Sword of Honour' for overall performance during training courses. Prior to the present appointment as the Commanding Officer ICGS Sangram, he had been the Chief Staff Officer (Operation) of the Coast Guard Regions West and Andaman & Nicobar.

Cdr Arnab Das (Retd) is a researcher, maritime strategist and an entrepreneur. He is the Founder & Director of the Maritime Research Centre (MRC) that is working on a unique concept of Underwater Domain Awareness (UDA) as its main focus. He also runs his Start-up, M/S NirDhwani Technology Pvt Ltd that provides consultancies and services for high end maritime security solutions and marine conservation support. He has over 70 publications and a book to his credit. Arnab served in the Indian Navy for over two decades. He did his Masters and PhD from IIT Delhi as a uniformed officer and under took several R&D projects during his seven years R&D tenure at IIT Delhi. He was invited to Tokyo University as a visiting researcher for his work on Freshwater Dolphins and post his retirement from the Indian Navy, he worked at the Acoustic Research Lab in NUS Singapore.

Dr. Malini Shankar, IAS (Retd) is an IAS officer of the 1984 batch, Maharashtra cadre and is currently the Vice Chancellor of the Indian Maritime University. She was nominated by the IMO as an honorary Member of the Board of Directors of the World Maritime University. She is a Member of the Government appointed Board of Directors of the IL&FS group of companies. She obtained her doctoral degree in Institutional Economics from the Indian Institute of Technology, Madras (India) and Management degree from the Asian Institute of Management, Manilla, Philippines. She was selected in 2020 as one of the 7 global recipients of AAA Award by the Asian Institute of Management, Manilla, Philippines. She is the first Indian to receive the award. Dr Shankar passionately believes in systems improvement, e-governance, policy reforms and capacity building.

Capt Harish Khatri, Master Mariner has over 22 years of sailing (1975-97) of which, over 8 years were in command of foreign going ships. He was the first Captain of India's First Gas Carrier. He holds Extra Master Certificate of Competency. He served the DG shipping from 1997 till 2016 when he superannuated as Dy. Nautical Advisor to GoI. He is credited for having upgraded the educational standards of nautical cadets by introducing B.Sc degree in collaboration with IGNOU in 2004. He has represented/led Indian delegations in international meeting such as IMO, UNO (CGPCS), UNCTAD and UNDC etc. Since 2016, Capt. Khatri serves as the Nautical Advisor in the Maharashtra Maritime Board, Mumbai. His responsibilities include the facilitation for development of all maritime activities including port, terminals, water transportation, marina etc. on the coast of Maharashtra. The recent development and operation of Ropax (M2M ferry) between Ferry Wharf and Mandwa, is the endeavor of his team.

Cdr Nevil Malao, VSM (Retd) is presently the Vice President Operations with JM Baxi & Company, the oldest and largest shipping company in India since the last two years. With over

23 years of experience in the Indian Navy and another 10 with a multinational shipping company in the Middle East, he has extensive experience in operational, commercial and contracting processes with major Cruise Shipping companies and foreign navies of the world. In his present role, he has interacted extensively with various Ministries, most Major Ports, Immigration, Customs and Public Health authorities.

Capt Sudhir Subhedar, Extra Master is the former President & CEO ICCSA, Indian Coastal Conference Shipping Association (ICCSA) a nodal body of Indian coastal ship owners operators, representing industry at the highest levels of government including National Shipping board, Indian delegation to IMO, sub committees at the Centre and States drafting legislation and shipping policy and trade bodies 2013 to date & assisting national waterways such as in Varanasi and Assam Waterways. He is the recipient of EXIM award for most active association of professional shipping companies in 2015, award for excellence by India Sea Trade Kochi 2016, Sailor Today media group award for exemplary individual contribution to Indian Shipping and has been nominated twice for National Maritime Day Award. He is assisting in developing domestic use of containers / maintaining manufacturing facility with ICCSA and engaged in the business of development of incentive scheme for modal shift of cargo, SAGARMALA to reduce logistic costs, customs facilitation and vision document for coastal shipping, inland waterways and cruise shipping. He is an IMO empaneled consultant and competent person for review of STCW white list.

Ms Rupali Sharma is the Managing Director at ENVITECH Marine Consultants Pvt Ltd. She is an MBA and a graduate from Mumbai University. She has 15 years of Administrative experience with WIPRO and ICICI. She has an award and trophy for pan India MIS Management in addition to numerous accolades received from both WIPRO and ICICI. In her present capacity Rupali is involved in coordination and evaluation of projects, planning and promoting of new technologies in coordination through joint ventures with partnerships in the US and Europe. She also coordinates joint ventures and tie-ups with specialised certified international organisations.

RAdm Nick Lambert (Retd), Royal Navy. A master mariner and a committed proponent of the maritime users' perspective Rear Admiral Nick Lambert concluded a long naval operational career as the UK National Hydrographer in December 2012. He advises on a wide range of maritime issues including the growing potential of the blue economy concept, the importance of spatial data infrastructures and hydrography for maritime economies, the evolution of eNavigation and GNSS vulnerability, near or real time situational awareness (especially that derived from space based assets and applications), maritime connectivity and cyber security, human factors, and training and education in the maritime sector. He has a particular interest in the Polar Regions and is also engaged in a variety of situational awareness, fisheries and aquaculture management, marine autonomous systems and vessel efficiency projects.

Cmde G Prakash, NM (Retd) joined the National Defence Academy, Khadakwasla in Jan 1981 and was commissioned on 01 Jul 1985. In the Navy, he specialised in two areas, namely, Air Warfare and Anti-submarine Warfare. As the Captain of INS Taragiri he also undertook extensive Tsunami relief work at Galle, Sri Lanka. He is M.Sc (Defence Studies) from Chennai University and M.Phil (Strategic Studies) from Mumbai University. He has been lecturing nationwide on several topics for over fifteen years, and has lectured at the National Defence College, New Delhi, the Naval War College at Goa, The College of Air Warfare, Secunderabad, The College of Defence Management at Hyderabad, DSSC Wellington, the Centre for Air Power Studies, New Delhi, the Centre for Joint Warfare Studies at New Delhi, at various Colleges in India and at various national and international seminars. He has also been a mentor for selected students of Government Colleges in Kerala, through an initiative called Walk With a Scholar. He writes on a variety of subjects and

recently published a book of short stories. He was awarded the Presidential award Nao Sena Medal on 26 Jan 2018.

Cdr Ninad Phatarphekar (Retd) is an Electrical Engineer and MBA by training and a maritime history maven by passion. He has garnered over three decades of work experience in Defence Services, Public Sector, Corporate and Social Sector ecosystems. Ninad is an alumnus of the Naval College of Engineering, Jamnalal Bajaj Institute of Management Studies (JBIMS), Mumbai and Indian Academy of Training & Development (IATD). He is also a NLP Master Practitioner and a qualified facilitator. Ninad has essayed a pivotal role in researching, curating and establishing 'Dharohar' – The Heritage Museum at Mazagon Dock Shipbuilders Ltd., Mumbai. He is on the Managing Committee of the Maritime Mumbai Museum Society which is setting up a Maritime Museum in Mumbai.

Shri Sandeep Unnithan is Executive Editor with India Today magazine in New Delhi where he writes on National Security issues. He is a graduate in Ancient Indian History from Xaviers College, Mumbai. He has authored 'Black Tornado: the three sieges of Mumbai 26/11', about the military aspects of November 26, 2008 attacks. The book was adapted as a web series 'State of Siege' released on the OTT platform ZEE5 Premium this March. His second book 'Operation X' coauthored with Capt MNR Samant released in August 2019 describes a covert Naval war in the run up to the 1971 liberation of Bangladesh.

Dr Naina Majrekar teaches History at Krea University. Her research lies at the intersection of history of seafaring migration and anti-colonialism. She received her PhD in History from the School of Oriental and African Studies (SOAS), London in 2018. In the course of her PhD she secured scholarships from the Inlaks Foundation, the Charles Wallace India Trust and the Institute of New Economic Thinking (Harvard and Cambridge). Following her PhD, Naina was Caird Fellow at National Maritime Museum in Greenwich, UK. She was also awarded the 2018 Sir Julian Corbett Prize in Modern Naval History for her article 'Decolonisation from the Seas: Mutiny in the Royal Indian Navy, 1946', by the Institute of Historical Research, London.

Capt Suneha Gadpande began her professional career as one of the first girl cadets with SCI in 2003 and was the Batch Commander and Best Cadet of her batch. She sailed with SCI from 2003-2012 and then challenged herself by moving on to the Japanese NYK lines from 2012-2016, where she was the first & only Lady Chief Officer. She made India proud as the only woman at Torm Shipping, the biggest Danish tanker company, to be promoted to the rank of Captain in 2019 and thus becoming the first and only Indian woman to be promoted to the rank of Captain in any foreign organisation. In 2006, she was awarded by the Nautical Institute, London for presenting a document on increased shipping opportunities. She is one of the 100 awardees on the Presidential 'Women of India' award. She was also awarded the Nari Shakti Samman at Rashtriya Mahila Kranti Parishad, Raipur in 2019. She has also dedicated herself to social causes related to women, like breast cancer awareness and female menstrual hygiene. A nominee for the iGlobal Nari Shakti Award, 2019, Suneha is an Ambassador for the non-profit organisation 'India turns Pink'.

VAdm G Srinivasan, AVSM, VSM was commissioned into the Engineering Branch of the Indian Navy on 01 Aug 1986. He is an alumnus of Mysore University, DIAT (Pune) and Defence Services Staff College (DSSC). The Flag Officer has held various important appointments in the Indian Navy including Operational, Staff and Dockyard. His major Shore appointments include Command Engineer Officer at Headquarters Western Naval Command, Commanding Officer INS Shivaji, Principal Director of Marine Engineering at IHQ of MoD (Navy), Additional/ Deputy

General Manager at Naval Dockyard Visakhapatnam, Senior Naval Engineer Officer at the Warship Overseeing Team at Mumbai, Deputy Naval Attaché at the Embassy of India in Moscow. The Admiral has also served extensively at sea on *IN* ships Rajput, Rana and Ranvijay. On being elevated to the flag rank, the Admiral served as the Assistant Chief of Material (Dockyard & Refits) at IHQ of MoD (Navy) and Admiral Superintendent of Naval Dockyard (Mumbai) before joining as DGNP (Mumbai). He is presently the Project Director ATVP at New Delhi.

Cmde Srikant B Kesnur, VSM has more than 35 years' experience in the field of operations, training, leadership, HR management and diplomacy. He has held several important assignments in the Indian Navy and commanded two frontline warships, INS Vindhyagiri and INS Jalashwa. He holds four master degrees in science and social sciences and is a PhD in African Studies. He has attended all important courses in the Navy and is a recipient of the Lentaigne medal from the Madras University for the best thesis while doing his masters. A frequent contributor to several in-house journals and magazines, he has also edited several of these journals. He has also been the lead write/ Chief Editor of nine books for the Navy. He is presently the Director of Maritime Warfare Centre, Mumbai and additionally the Officer-in-Charge of Indian Navy's History Project.

Cdr Shrawan Kapila (Retd) is a Gunnery specialist and retired from the Navy in April 2021 after about 21 years of service. In his service career, he had vast experience in the field of operations and training. Besides ship borne tenures, he held varied appointments which included looking after operations at the MMCB Squadron, a stint at an Air Station and a tenure as Directing Staff at Maritime Warfare Centre, Mumbai.

Cdr Yogendra Kumar Sharma is a Gunnery and Missile specialist with about 13 years' experience in the field of operations, weapon analysis and training. Other than serving onboard frontline ships for about seven years, he has also tenated a shore appointment during which he was responsible for analysis of the weapon firings. He is presently the Directing Staff (Gunnery) at Maritime Warfare Centre, Mumbai.

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- Cmde Manish Bhandari, Command Administration and Personnel Officer

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“Over the last hundred years or so, the concept of sea power has undergone further transformation. From the classical Mahanian thought to the contemporary interpretation, several new elements have emerged. Principal amongst these are technology to extract resources from the sea bed and provisions of UNCLOS 1982 that have sought to balance the competing demands of national jurisdiction over the seas with the necessity to preserve the maritime domain as the great global commons.....”

“..... India’s economy as well as progress and prosperity are largely dependent upon international trade, which is carried by sea, as is the energy, the lifeline of our industries. These factors, coupled with the prospects of harvesting oceanic resources and India’s growing profile, along with the growing realisation of our dependence on the seas should enable the necessary investment in the comprehensive development of sea power.”

**VAdm RB Pandit,
Chief of Staff, Western Naval Command,
Keynote Address**

“This book consists of the proceedings of a webinar on the topic ‘Enhancing Maritime Consciousness for Sea Power’ and covers varied topics and discussions on the subject. It makes for an interesting read not only for mariners from various disciplines but also for maritime enthusiasts and academics.

