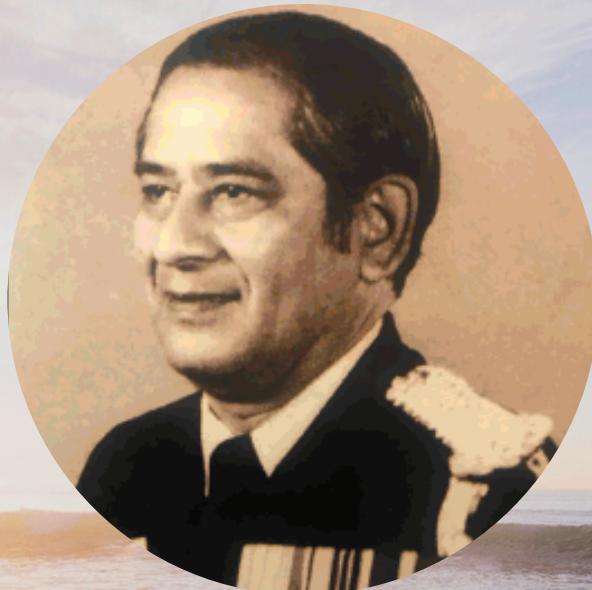




VICE ADMIRAL KK NAYYAR FELLOWSHIP NATIONAL-LEVEL CONFERENCE



CONFERENCE BOOKLET

22 & 23 February 2023

Scope Convention Centre, New Delhi

VICE ADMIRAL KK NAYYAR FELLOWSHIP CONFERENCE 2023

**"INDIA'S COASTAL RESILIENCE
VIS-À-VIS URBAN AGGLOMERATIONS"**

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ABBREVIATIONS

- ADC - Aide de Camp
- AVSM - Ati Vishisht Seva Medal (Medal for distinguished service of a very high order)
- DG- Director General
- CCO- Chief Continuity Officer
- IN - Indian Navy
- PVSM - Param Vishisht Seva Medal (Medal for distinguished service of an exceptionally high order)
- VSM - Vishisht Seva Medal (Medal for distinguished service)

VICE ADMIRAL KK NAYYAR FELLOWSHIP CONFERENCE 2023

(KKNFC-23)

INDIA'S COASTAL RESILIENCE VIS-À-VIS URBAN AGGLOMERATIONS

Concept Note

It is an established and well-recognised fact that the world is passing through a climate crisis of monumental proportions. South Asia in general, and India in particular, are highly vulnerable to an entire range of hydro-meteorological hazards that are rapidly rising, both in terms of their intensity and frequency. India's average temperature, for instance, has risen by around 0.7° C, over the period from 1901 to 2018. Within India's proximate maritime domain, the situation is even worse. In just the period from 1951 to 2015, Sea Surface Temperature (SST) in respect of the tropical Indian Ocean has risen by 1° C on average, which is markedly higher than the global average over the same period.

Irrespective of the precise causal factors, the effects of this rise in temperature are uniformly deleterious. In the proximity of the Indian sub-continent, they include changes in the comparative heating of landmasses and sea areas, with consequent changes in pressure gradients. We are consequently experiencing significant changes in precipitation (especially rainfall) and difficulties in its predictability. On the one hand, we have unexpected droughts, while on the other, there are increasing incidences of uneven, sporadic, but intense rainfall which, far from nourishing the land, simply washes away topsoil thereby reducing agricultural productivity, and produces widespread and non-seasonal flooding. Both these have serious socio-economic and socio-political impacts that are keenly felt along the coast, particularly in mega urban coastal agglomerations such as Mumbai.

All this is worsened by the increase in frequency and ferocity but a concomitant decrease in the path-predictability of tropical revolving storms (cyclones) and the storm surges that occur in their wake, causing significant loss of land through the sharp increase in coastal erosion. Indian metropolises on the country's western coast, for example, which had hitherto been accustomed to relatively calm maritime conditions, have been witnessing a sharp surge in extreme cyclonic activity these past few years. High-intensity cyclones such as Ockhi (2017), Vayu (2019), Nisarga (2020), and Tauktae (2021), have wreaked year-on-year havoc in India's coastal areas. Cyclone Tauktae, for instance, caused a loss of about Rs 15,000 crore (US\$ 1.93 billion), with the agriculture sector in Gujarat and Maharashtra being the most severely hit. India's east coast is even worse affected. For instance, Cyclone Amphan, which made landfall on the east coast in May of 2020, is notorious for being the world's costliest natural disaster — with the economic loss being estimated to be over one lakh crore rupees (US\$ 12.2 billion). Given this magnitude of fiscal impact, it is painfully obvious that climate-proofing

of coastal cities is a task to which policymakers and planners must bend their efforts with alacrity and sharp focus.

Just a few short decades ago, thermal expansion of the oceans was considered to be the principal contributor to rises in sea levels. Today, however, the follow-on effects of the rise in global temperature have wrought a change in this thinking to the point where global sea-level rise is now being principally ascribed to the melting of glaciers across the world and the alarming loss of the vast ice sheets of Antarctica and Greenland. Once again, however, irrespective of the cause, sea-level rise is indeed occurring far more rapidly and is far more significant than had earlier been imagined.

Once again, sea-level rise has a whole slew of adverse impacts and generates a staggering range of systemic risks, as also follow-on socio-economic and socio-political challenges, especially in countries such as India, which are endeavouring to accelerate their economic development. It is, thus, both ironic and tragic that these adverse impacts are most keenly felt in precisely those nodes that connect the economic and developmental lifelines of trade and commerce — namely, coastal population centres and entrepôts. Coastal urban agglomerations have long been recognised as vital symbols of economic progress and innovation, and, since they are melting pots of diverse cultures, socio-political and socio-economic disturbances or turmoil have far-reaching and enduring impacts.

In common with much of the global South, India must necessarily balance sustainability against the imperatives of economic development in a far more geographically interdependent—if not globalised world. There is, encouraging evidence that India is, indeed, recognising the magnitude of this threat to its critical maritime infrastructure, and is taking significant steps towards building resilient development pathways through efforts such as the Smart City Mission (2015), the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), the Coalition for Disaster Resilient Infrastructure (CDRI) — an international coalition of countries, United Nations (UN) agencies, multilateral development banks, the private sector, and academic institutions — established by PM Narendra Modi in 2019, and the recently launched Infrastructure for the Resilient Island States (IRIS), a dedicated initiative that was co-created by the CDRI and representatives of Small Island Developing States (SIDS) at the COP 26. Prime Minister Narendra Modi's sustained push for accelerating India's transition from a 'brown' model of economic development to one that fully embraces the several facets and nuances of a resilient and sustainable 'blue' economy is evidenced in initiatives such as the country's maritime policy (encapsulated in the acronym SAGAR), the SAGARMALA mega-project that has now been subsumed into the Maritime India Vision 2030, and the Pradhan Mantri Matasya Sampada Yojana (2020). All these are manifestations of a renewed policy, focuses on the

transformation of India's coastal cities and critical maritime infrastructure such as ports. These encouraging developments notwithstanding, a holistic and dynamic strategy — marked by clarity of thought and specificity of action — to mitigate (where possible) and adapt to (where mitigation is not possible or insufficient) the adverse impacts of climate change, is nevertheless critical if India is to realise its dream of becoming a leading 'blue economy' in a largely postmodern world.

Following the Paris climate accord of 2015, the world is witnessing an upsurge in the participation of local governments and cities as main stakeholders in climate action. Initiatives such as "C40", the "Urban Climate Action Programme" (UCAP), and "100 Resilient Cities", have proven to be successful in raising awareness, climate finance, and stakeholder participation amongst coastal cities around the world. Several coastal cities of India, too, are beginning to realise that the loss and damage that would accrue from a business-as-usual approach are so large as to be politically and financially unacceptable. Three Indian coastal cities — Mumbai, Chennai, and Kolkata — are currently part of the C40 initiative, and Mumbai has gone a step further with its "Mumbai Climate Action Plan" (MCAP). However, for coastal cities in the developing world, raising climate finance and rapid urban infrastructural transformations will be critical and unavoidable challenges going forth, which they must pursue with an active political and economic will. As if all these were not challenging enough, India's geographical location dictates that climate change related issues will also acquire increasing geopolitical and hence geostrategic salience.

As part of its own ongoing contribution to India's quest for economically and politically viable policy-relevant solutions, the National Maritime Foundation has made the "India's Coastal Resilience Vis-à-vis Urban Agglomerations" the central theme of its inaugural Vice Admiral KK Nayyar Fellowship Conference (KKNFC-2023), which is scheduled to be held in physical format, at the Scope Convention Centre Auditorium (Lodhi Road, New Delhi), on 22 and 23 February 2023.

PROGRAMME

**VICE ADMIRAL KK NAYYAR FELLOWSHIP
CONFERENCE 2023 (KKNFC-23)**

**22 & 23 February 2023
Scope Convention Centre, New Delhi**

PROGRAMME- DAY ONE (22 February 2023)

INAUGURAL SESSION

1100-1105 (05 min)	Administrative Remarks	Ms Divya Rai Programme Executive, NMF
1105-1115 (10 min)	Conceptual Overarch	Vice Admiral Pradeep Chauhan, AVSM & Bar, VSM, (Retd) Director-General, National Maritime Foundation
1115-1125 (10 min)	Tribute to the Late Vice Admiral Kewal Kishan Nayyar, PVSM, AVSM	Ms Gita Nayyar
1125-1140 (15 min)	Chairman's Address	Admiral Karambir Singh, PVSM, AVSM (Retd) Chairman, National Maritime Foundation Former Chief of the Naval Staff
1140-1155 (15 min)	CNS's Address	Admiral R Hari Kumar, PVSM, AVSM, VSM, ADC Chief of the Naval Staff
1155-1215 (20 min)	Presentation of Abstract of Monograph (Research Project)	Dr Chime Youdon, Associate Fellow, NMF & Dr Saurabh Thakur, Consultant, UNODC
1215-1220 (05 min)	Release of Main Conference Paper, and Photo-Op	Shri Kamal Kishore Member Secretary, National Disaster Management Authority (NDMA), and Co-chair, Coalition for Disaster Resilient Infrastructure (CDRI), New Delhi
1220-1240 (20 min)	Keynote Address	Shri Kamal Kishore Member Secretary, National Disaster Management Authority (NDMA), and Co-chair, Coalition for Disaster Resilient Infrastructure (CDRI), New Delhi
1240-1245 (05 min)	Vote of Thanks and Session-Closure	Ms Divya Rai Programme Executive, NMF

1245 - 1345- Lunch Break (60 min)

PROGRAMME- DAY ONE (22 February 2023)

PROFESSIONAL SESSION ONE (Duration: 2 h 40 min)

(1345-1625 IST)

“India’s Coastal Resilience: Challenges”

1345-1350
(05 min)

Administrative Remarks

Ms Divya Rai
Programme Executive, NMF

1350-1410
(20 min)

A Framework for Enhancing
Resilience and Managing Systemic
Risks in Seaports

Mr Arunabh Mitra
Chief Continuity Officer (CCO)
HCL Technologies Ltd
Noida, UP

1410-1430
(20 min)

Social and Health Infrastructure
Resilience

Dr (Ms) Mona Chhabra Anand
Director-Research and Knowledge Management
Coalition for Disaster-Resilient Infrastructure (CDRI)
New Delhi

1430-1450
(20 min)

Marine Litter and Waste Leakage in
the Coastal Ecosystem

Ms Rachna Arora
Team Leader, Marine Litter and EU-REI,
GIZ
New Delhi

1450-1510
(20 min)

Mapping 'Coastal Resilience' in
Anthropocene: Science, Stakes and
Policy

Prof Sanjay Chaturvedi
Dean of Faculty of Social Sciences, Department of
International Relations, South Asian University
New Delhi

1510-1530
(20 min)

Frameworks, Challenges,
Opportunities in the Maritime Sector

Commodore Debesh Lahiri
Executive Director, NMF

1530-1625
(55 min)

Hard Talk & Audience Interaction

Discussant:
**VAdm Pradeep Chauhan, AVSM & Bar, VSM,
(Retd)**
Director-General, National Maritime Foundation

1625-1700 - End-of-Day Tea (35 mins)

PROGRAMME- DAY TWO (23 February 2023)

Coastal Resilience: Analysing India's Current Policy Framework

1000-1005 (05 min)	Administrative Remarks	Ms Divya Rai Programme Executive, NMF
1005-1025 (20 min)	Keynote Address (Deep Ocean Mission)	Dr GA Ramadas Director National Institute of Ocean Technology (NIOT) Chennai
1025-1030 (05 min)	Photo Session	
1030-1050 20 Min	Resilience of India's Coastal Cities: People, Planet, Profit towards Policies	Ms Devleena Bhattacharjee Founder of Numer8 Sustainable Marine Ecosystem Mumbai
1050-1110 (20 min)	Building Coastal Resilience: Mainstreaming Community Participation	Mr Vijai Dharmamony Associate Director Marine Conservation, WWF-India
1110-1130 (20 min)	Analysing India's Current Policy Framework of the Port Sector	Mr Sushil Kumar Singh Joint Secretary, Government of India, Ministry of Ports, Shipping and Waterways
1130-1150 (20 min)	Risk Assessment of Coastal Resilience	Mr Abinash Mohanty Global Head, Climate Change and Sustainability, IPE Global, New Delhi
1150-1210 (20 min)	Ecologically Sensitive Areas (ESA): Legal Frameworks	Dr Deepak Samuel V Scientist 'E' & Project Lead, Conservation of Coastal and Marine Resources Division, National Centre for Sustainable Coastal Management , Chennai
1210-1300 (50 min)	Hard Talk & Audience Interaction	Discussant: Admiral Karambir Singh, PVSM, AVSM (Retd) Chairman NMF, Former Chief of the Naval Staff

1300- 1400 - Lunch Break (60 mins)

PROGRAMME- DAY TWO (23 February 2023)

PROFESSIONAL SESSION THREE (Duration: 2h 30min)

(1345 h -1615 h)

“Building Coastal Resilience: The Way Ahead”

1400-1405 (05 min)	Administrative Remarks	Ms Divya Rai Programme Executive, NMF
1405-1425 (20 min)	Coastal Resilience and Energy infrastructure	Ms Swati Ganeshan Shakti Rise Fellow Shakti Sustainable Energy Foundation, New Delhi Honorary Adjunct Fellow, NMF
1425-1445 (20 min)	Building Coastal Resilience: Best Practices	Cdr (Dr) Kapil Narula Adjunct Fellow, NMF
1445-1505 (20 min)	Enhancing Climate Resilience of India's Port Infrastructure and operations	Dr Pushp Bajaj National G-20 Consultant UNDP, New Delhi Honorary Adjunct Fellow, NMF
1505-1525 (20 min)	Sustainable Development: Best Practices	Ms Marion Velut Counsellor Sustainable Development, Regional Economic Department for India and South Asia, The French Embassy
1525-1625 (60 min)	Hard Talk & Audience Interaction	Discussant: Commander Prashant K Srivastava (Retd) Advisor/Scientist 'G', Ministry of Earth Sciences, New Delhi
1625- 1645 - Tea Break (20 mins)		

CONCLUDING SESSION (Duration: 35 min)

(1635-1710 IST)

1645-1655 (10 min)	In Memoriam	Mr Ashok Nayyar
1655-1715 (20 min)	Summative Remarks	Admiral Karambir Singh, PVSM, AVSM, IN (Retd) Chairman, National Maritime Foundation
1715-1720 (5 min)	Vote of Thanks, Photo Session Conference-Closure	Ms Divya Rai Programme Executive, NMF

VICE ADMIRAL KK NAYYAR

FELLOWSHIP

The late Vice Admiral Kewal Krishan Nayyar, *Param Vishisht Seva* Medal, *Ati Vishisht Seva* Medal, was commissioned into the Indian Navy on the first day of January in the year 1951. Right from his earliest days in the navy, he established a reputation for conceptual brilliance, coupled with a well-adjusted *Seaman's Eye* for detailed planning, and a consistent demonstration of outstanding tactical-, operational- and strategic acumen in the execution of his plans. Successive stints in the Directorate of Naval Plans at Naval Headquarters (as it was then known) honed his analytical dexterity and financial skills to a fine edge. However, he was certainly no armchair admiral, as his distinguished sea-going tenures clearly demonstrate. Besides commanding several frontline surface combatants, including the *Rana* and the *Delhi*, the two cruisers that were, at that point in time, very much the Indian Navy's pride and joy, he had the rare distinction of commanding both, the Eastern and the Western Fleets of the Indian Navy. Vice Admiral Nayyar retired in 1986, after having helmed the Southern Naval Command as its Flag Officer Commanding-in-Chief, and, having tenanted the high post of the Vice Chief of the Naval Staff.



Vice Admiral KK Nayyar

His retirement from active duty did not, in any way, diminish his passion to bring about a restoration of that degree of Indian primacy that drew so many powers — pre-colonial kingdoms and European nation-states alike — to India's shores like so many moths to a brilliant, dancing maritime flame. He was recognised, respected and greatly valued for his outstanding intellect and his vast and varied experience. As such, he enjoyed the confidence of the highest decision-making levels of the Government of India. Appointed to be a member of the National Security Advisory Board, and the Committee on Defence Expenditure, he also chaired the panel set up by the 11th Finance Commission to assess defence expenditure for the period 2000-2005. His extensive experience and intellectual effervescence shaped his panoramic worldview and fanned in him a fierce desire to create robust and quintessentially Indian organisational structures that would foster a resurgence of maritime thinking in the country. The NMF stands as the realisation of that desire. An avid reader, writer and historian, he authored a number of books, including the notable, *Amar Jawan — A Book of Remembrance*, which was published in 1997, in the 50th year of India's Independence, and which lists the names of every single Indian soldier, sailor and airman who, since 1947, had laid down his life in the defence of India. This book offers an eloquent testimony of the passion to serve, devotion to duty, and high ideals, all of which Admiral Nayyar epitomised. Another prominent book of his was *National Security – Military Aspects*, which was published in 2003 but such is its erudition and quality that it retains contemporary relevance.

His focus upon such strategies and plans as could be seamlessly transformed into practical execution was unwavering. Having been a principal architect in the creation of the NMF, he pushed it to meaningfully contribute to strategic planning and the flawless execution of carefully-formulated strategic, operational and tactical action within the maritime domain.

VICE ADMIRAL KK NAYYAR FELLOWSHIP

To honour the multitudinous achievement of the late Admiral, his family instituted “The Vice Admiral KK Nayyar Fellowship” at the National Maritime Foundation (NMF), in May of 2020. The fellowship promotes and supports intellectual and policy-relevant research on subjects of maritime consequence to India and, in doing so, commemorates the life and achievements of this evangelist of Indian maritime thinking.

The inaugural research project of the fellowship has addressed the issue of India’s Coastal Resilience vis-à-vis its Urban Agglomerations. Dr Chime Youdon, Associate Fellow, NMF, and Dr Saurabh Thakur, now Consultant, UNODC, were the first Fellows of this fellowship and have undertaken a major research project of great contemporary and future relevance, entitled “Rising Seas and Coastal Impacts: Metropolitan Resilience in India”. This monograph, which is the result of that project, addresses the resilience of Indian interests and infrastructure in and off India’s coastal stretches in general and in its major coastal cities in particular, in the face of the adverse maritime impacts of climate change. The monograph offers eloquent testimony to the late admiral’s vision of nurturing an intellectually effervescent maritime India.

TORCHBEARERS OF THE NEXT GENERATION OF SCHOLARS & PHILANTHROPISTS



Mr Ashok Nayyar,
Son of Vice Admiral KK Nayyar



Ms Gita Nayyar,
Daughter of Vice Admiral KK Nayyar

VICE ADMIRAL KK NAYYAR FELLOWS



Dr Chime Youdon

Dr Chime Youdon is an Associate Fellow, and the Head of the Blue Economy and Climate Change Cluster at the National Maritime Foundation in New Delhi, India. She was the recipient of the Coalition for Disaster Resilient Infrastructure (CDRI) Fellowship (2021–2022). She is also a VAdm KK Nayyar Fellow who has worked on the climate resilience of coastal urban agglomerations research project. Her research areas of interest include global climate change politics, climate resilience and adaptation of critical maritime infrastructure, nature-based solutions, blue economy, and sustainable development of coastal urban agglomerations. She has earned her doctorate degree in Comparative Global Climate Change Policies from the Centre for European Studies, School of International Studies, Jawaharlal Nehru University, New Delhi.



Dr Saurabh Thakur

Dr Saurabh Thakur is a Consultant with United Nations Office on Drugs and Crime (UNODC), Regional Office for South Asia. Previously, he worked with the Ministry of External Affairs, New Delhi, as part of the research division that oversaw the establishment of the G20 Secretariat for the Indian Presidency (2022-2023). He was an Associate Fellow in the Blue Economy and Climate Change research cluster at the National Maritime Foundation, New Delhi. Dr Thakur's research interests include the politics of climate change, the blue economy, maritime security, multilateral negotiations, G20 diplomacy, regional cooperation and the Indian Ocean Region. He has held a number of prestigious fellowships including the Coalition for Disaster Resilient Infrastructure (CDRI) Fellowship (2021-22), the VAdm KK Nayyar Fellowship (2020-2022) and the Kodikara Fellowship (2020-21). He holds a PhD in International Relations from the Centre for International Politics, Organization and Disarmament, School of International Studies, Jawaharlal Nehru University, New Delhi, India.

DISTINGUISHED SPEAKERS

**VICE ADMIRAL KK NAYYAR FELLOWSHIP
CONFERENCE 2023 (KKNFC-23)**

ADMIRAL R HARI KUMAR
PVSM, AVSM, VSM, ADC
Chief of the Naval Staff, Indian Navy



Admiral R Hari Kumar, an alumnus of the National Defence Academy, was commissioned into the Indian Navy on 01 January 1983. A gunnery and missile warfare specialist, the Admiral has commanded Coast Guard Ship C- 01, INS Nishank, INS Kora, INS Ranvir and INS Viraat. His other sea-going appointments include Fleet Operations Officer and Fleet Gunnery Officer of Western Fleet, Executive Officer of INS Vipul, Gunnery Officer (GO) of INS Ranjit, commissioning GO of INS Kuthar and commissioning GO VIII of INS Ranvir.

His shore appointments include Command Gunnery Officer at Headquarters Western Naval Command, Naval Advisor to the Government of Seychelles, and Training Commander at INS Dronacharya. His Flag appointments include Commandant of Naval War College at Goa, Flag Officer Sea Training, Flag Officer Commanding Western Fleet, Chief of Staff, Western Naval Command, Controller Personnel Services and Chief of Personnel, Naval Headquarters. Prior to taking over as the Flag Officer Commanding-in-Chief of Western Naval Command, Admiral R Hari Kumar was the first Vice Chief of Defence Staff. He played a key role in setting up and operationalisation of the Department of Military Affairs, instituted under the newly created post of the Chief of Defence Staff (CDS)/ Secretary Department of Military Affairs(DMA).

He served in the Civil-Military Operations Centre of the UN Mission in Somalia (UNOSOM II) at Mogadishu from December 1992 to June 1993. He attended the US Naval Staff Course at Naval War College, Rhode Island, in 1996, the Army Higher Command Course at the Army War College, Mhow in 2004, and the Royal College of Defence Studies, London, in 2009. He holds a Bachelor of Science degree from the Jawaharlal Nehru University, a Master's degree in International Studies from King's College, London, an MPhil degree in Defence & Strategic Studies from the Mumbai University and a Post Graduate Diploma in Shipping Management from the Narottam Morarjee Institute of Shipping, Mumbai.

He was awarded the Vishist Seva Medal in 2010, Ati Vishisht Seva Medal in 2016, Param Vishisht Seva Medal in 2021, and was appointed Honorary ADC to the Hon'ble President of India in the same year.

SHRI KAMAL KISHORE**Member Secretary,****National Disaster Management Authority**

Shri Kamal Kishore has worked on disaster risk reduction and recovery issues for over 22 years at the local, national, regional and global levels. Prior to joining the National Disaster Management Authority, he worked with the United Nations Development Programme (UNDP) for nearly 13 years in New Delhi, Geneva and New York. At UNDP headquarters he led global advocacy campaigns to address disaster risk reduction concerns in the UN's Sustainable Development Goals and the post-2015 development agenda. As program advisor, he also led the development of disaster and climate risk management-related elements of the UNDP Strategic Plan (2014-17).

Previously, as UNDP's regional advisor for South and South-West Asia, he supported more than 10 countries on a range of public policy and institutional development issues, while also advising them on the use of appropriate risk reduction tools and methodologies. Kamal Kishore has supported post-disaster recovery through strategic advice, needs assessments, program development, and coordination after major disasters in Bangladesh, India, Indonesia, Iran, Myanmar, Pakistan, the Philippines and Sri Lanka. Kamal Kishore has a Bachelor's degree in Architecture from the Indian Institute of Technology, Roorkee, and a Master's degree in Urban Planning, Land and Housing Development from the Asian Institute of Technology, Bangkok.

**DR G A RAMDASS,
Director,
National Institute of Ocean Technology
(NIOT)**



Dr G A Ramdass is the director of the National Institute of Technology (NIOT), Chennai, an autonomous body under the Ministry of Earth Sciences, Government of India. His research areas include Deep Sea Technology, Deep Sea Mining, Underwater Acoustics and Marine Instruments. Presently he is coordinating a project for the development Indian Manned Scientific Submersible 'MATSYA 6000' which is intended for carrying three scientists/engineers to 6000 metre depth in the ocean. Since the inception of NIOT he has been leading different technology development projects. In 2010 he won the National Geoscience award under the Exploration of Oil and Natural Gas category and NRDC award for the year 2017.

He led NIOT team during the 34th Indian Scientific Expedition to Antarctica in February- March 2015. Polar Remotely Operated Vehicle (PROVe), developed indigenously at NIOT, was used for exploration in the lake and shelf area of Antarctica during this expedition. A doctorate from Indian Institute of Technology, Madras and M.Sc from IIT, Kharagpur, he handled technology development programmes leading to products and patents. He has been the Chief Scientist of several cruises and scientific explorations on-board various research vessels. He has a number of publications in the international journals, international conferences and four international patents.

ADMIRAL KARAMBIR SINGH, PVSM, AVSM
Chairman, National Maritime Foundation
Former Chief of the Naval Staff, Indian Navy



Admiral Karambir Singh, PVSM, AVSM, IN, (Retd) who was the Republic of India's 24th Chief of the Naval Staff (31 May 2019 to 30 November 2021), assumed the chairmanship of the National Maritime Foundation, New Delhi, on 17 January 2022. An alumnus of the National Defence Academy, Khadakwasla, the Defence Services Staff College, Wellington, and the College of Naval Warfare, Mumbai, the Admiral was commissioned into the Indian Navy in July of 1980.

A Naval aviator, he earned his wings in 1981 as a helicopter pilot and has flown extensively on the Chetak (Alouette Mk III) and several variants of Kamov helicopters. Over the four decades of service under the Indian Navy's White Ensign, he has commanded the Indian Coast Guard Ship Chandbibi, the guided-missile corvette INS Vijaydurg, and two of the Indian Navy's frontline guided-missile destroyers, namely, INS Rana and INS Delhi. He has also tenanted the seagoing appointments, including those of Fleet Operations Officer of the Western Fleet. He has served in the Directorate of Naval Air Staff at the Integrated Headquarters of the Ministry of Defence (Navy) and has been Captain (Air) and Officer-in-Charge of the Naval Air Station at Mumbai. On promotion to the flag rank, the Admiral has served as the Chief of Staff of the Eastern Naval Command. He has also tenanted other critical flag appointments, including those of the Chief of Staff of the Tri-Services Unified Command in the Andaman and Nicobar Islands, and the Flag Officer Commanding Maharashtra and Gujarat Naval Area (FOMAG).

As a Vice-Admiral, he was the Director-General, Project Seabird, and oversaw all aspects of the development of the Indian Navy's expansive and modern base at Karwar in India's southern state of Karnataka. Appointed thereafter as the Deputy Chief of Naval Staff, he discharged his responsibilities towards the Indian Navy's current and future operational and combat capacity and capabilities. He then served as the Vice Chief of Naval Staff, involved with the development of the "future Navy". He has a rich store of senior command experience and has been the Flag Officer Commanding-in-Chief, Eastern Naval Command, with his headquarters at the port-city of Visakhapatnam. He assumed Command of the Indian Navy on 31 May 2019, serving until his retirement from active service on 30 November 2021.

VICE ADMIRAL PRADEEP CHAUHAN, AVSM & BAR,

VSM, IN

Director General, National Maritime Foundation,

New Delhi



An alumnus of the National Defence Academy, the Defence Services Staff College, the Naval War College, and the National Defence College, with BSc, MSc and MPhil degrees under his belt, Vice Admiral Pradeep Chauhan, AVSM & Bar, VSM, (Retd) is currently the Director General of the National Maritime Foundation, New Delhi, which is India's foremost resource centre for the development and advocacy of strategies for the promotion and protection of India's maritime interests.

The admiral retired on 30 November 2013 after an illustrious, rich, and varied four-decade-long career in the Executive Branch of the Indian Navy, in the course of which he has been publicly commended three times by the Hon'ble President of India. Not one to rest on past laurels, he has remained active even after retirement and is a much sought-after thought leader and leadership mentor. Apart from being on the visiting faculty of the higher-command establishments of all three of India's defence services, as also tri-Service establishments such as the College of Defence Management, Hyderabad and the National Defence College, New Delhi, he has also been advising the government through his interaction with the Integrated Headquarters of the Ministry of Defence (Navy), the Ministry of External Affairs, and the National Security Council Secretariat. He is, in addition, a prolific writer with over 95 published professional articles and papers, and, a respected Adviser and Fellow of several important think tanks.

DISTINGUISHED PANELISTS

**VICE ADMIRAL KK NAYYAR FELLOWSHIP
CONFERENCE 2023 (KKNFC-23)**

Dr Mona Chhabra Anand is a Director at the Research and Knowledge Management (RKM) wing of the Coalition for Disaster Resilient Infrastructure (CDRI), New Delhi.



Dr (Ms) Mona Chhabra Anand

Prior to joining the CDRI, Dr Anand served as the Country Programme Lead in India for Asian Disaster Preparedness Center (ADPC). As part of several working groups of the Government of India, Mona has been extensively involved in strengthening institutional capacities for disaster preparedness, response and recovery that have resulted in progressive policy initiatives for safe and sustainable development. She has also worked with UNICEF, UNDP, IIT Delhi and civil society on developing process innovations in this direction.

Trained as an architect and development planner, Dr Mona Chhabra has been involved in policy development and the practice of safe and sustainable habitat development in south Asia. Through this process, Mona has leveraged research and knowledge-based initiatives to inform policy decisions mainly within South Asia. She holds a PhD in Disaster resilience from the Indian Institute of Technology, Delhi.



Dr Rachna Arora

Dr Rachna Arora is working as a Team Leader in the EU-Resource Efficiency project of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and as a Team Leader on the GIZ Circular Economy solutions preventing Marine litter project. She has been working with GIZ for the last 15 years under bilateral projects, projects of the European Commission and partnership projects with the private sector with relevant Ministries and government departments towards policy formulation and its implementation. She is a TEDx speaker on Circular Economy.

She holds a doctorate degree in environmental chemistry from the Indian Institute of Technology (IIT) Roorkee. She was a member of the Inter-departmental committee set up by Niti Aayog (Policy think tank, GoI) on Resource Efficiency strategy and Niti Aayog's Committee set up by the Ministry of Information Technology and Communication (MeiTY), GoI on Circular Economy Action plan on e-waste, MNRE's Committee on Solar Panel Recycling and Ministry of Steel committee on Scrap recycling. She is also a working group member of the FICCI Circular Economy Committee to support industry research and dialogues on Circular Economy.



Prof Sanjay Chaturvedi

Dr Chaturvedi was Lala Lajpat Rai Chair Professor in Political Science at Panjab University, Chandigarh before joining South Asian University, New Delhi, as Professor in International Relations in June 2018. His key research interests are the theory and practices of geopolitics; with special reference to Polar Regions and the Indian Ocean Region.

From 1993 to 1995, he pursued post-doctoral research on “Polar Regions in International Relations” at the Scott Polar Research Institute, University of Cambridge, England, with Nehru Centenary British Commonwealth Fellowship and Leverhulme Research Grant.

He has received several visiting professorships and fellowships including Curtin University, Australia; University of Wurzburg, Germany; India-China Institute, The New School, USA; The University of Adelaide, Australia; University of Cambridge, England; University of Durham, UK; Institute of Southeast Asian Studies (ISEAS)-Yusof Ishak Institute, Singapore (2010-2012), Columbia University Institute for Scholars, Paris; Faculty of Law, University of Sydney; Ben Gurion University of the Negev, Israel; and Henry L. Stimson Centre, Washington D.C., USA.



Mr Arunabh Mitra

Mr Arunabh Mitra is the Chief Continuity Officer for HCL Technologies, a \$12 billion information technology company with 200,000 employees and operations in over 52 countries. His charter is to design and deploy a ‘future-ready’ Crisis & Resilience framework in line with industry-leading practices to appropriately respond to the evolving risk landscape while collaborating actively with HCL’s clients across Fortune 1000 companies, diverse external stakeholders and industry bodies.

Mr Mitra’s mission is to build a more resilient world. He works extensively with individuals and industry partners to amplify the conversation on resilience and is an industry speaker that thrives on delivering a dynamic and interactive session at global events. He is the founding Chair of the India Future Practice Group - a Think Tank of Business Continuity Institute (BCI) dedicated to horizon scanning and decoding the future of Business Continuity and a member of the Regional Advisory Group of Risk and Insurance Management Society (RIMS) for South Asia. Mr Mitra is currently pursuing his Doctoral Program on the topic of Resilience from the Graduate School of Media and Governance at Keio University, Tokyo.

Ms Devleena Bhattacharjee is a data scientist with over 15 years of experience in using data to solve real-world business problems across different domains. Her first data science startup was a risk intelligence platform for the insurance industry using satellite data.



Ms Devleena Bhattacharjee

Her second data science startup Numer8 uses satellite data along with other sensor data to build profitable, traceable, and sustainable fisheries. Ms Bhattacharjee solo founded Numer8 in 2017 and now works with a team of data scientists, data architects, and GIS analysts. Numer8's OFish product is unique globally in creating social and environmental impact.

It got selected by the European Space Agency and the UN World Food Programme for addressing SDGs 2, 12, and 14. OFish also got selected by the ISRO ANIC ARISE Program in 2021 to work to build an affordable and effective marine communication system for fishing boats, especially needed during search and rescue operations and to keep them informed proactively on critical weather conditions. Currently, the Numer8 team is using ocean observation data to explore additional livelihood enablement of coastal communities like seaweed.

Devleena speaks actively about using the power of data science in solving global issues like climate change and food security. She is also the chairperson for the FICCI Fishtech subcommittee which helps her to engage further with the sector and build interventions between multiple stakeholders.



Dr Vijay Dharmamony

Dr Vijai Dharmamony works as an Associate Director at WWF-India, New Delhi. Currently, he heads the Marine Conservation programme of the WWF-India and plays a critical role in Programme development, project management, and stakeholder engagement.

Dr Vijai has completed his PhD in Marine Environmental Science from the Hokkaido University of Japan. Post PhD, he worked as a Data Scientist with the North Pacific Fisheries Commission, Japan.



Mr Sushil Kumar Singh is the Joint Secretary in the Ministry of Ports, Shipping & Waterways, Government of India, New Delhi. He is a 1993-batch IRSME officer.

Mr Sushil Kumar Singh



Mr Abinash Mohanty

Mr Abinash is the Global Sector Head of Climate Change and Sustainability at IPE-Global- an International development organization working across 15 geographies, including India, Africa, and South Asia. He is a reviewer of the Intergovernmental Panel on Climate Change's sixth assessment report (AR6): Impacts, Adaptation, and Vulnerability and also a member of the Resource Advisory Group of NABARD and a member of the National Steering Committee on Climate Change for Government of India.

His work is focused on climate change risk assessment and adaptation solutions for concerned stakeholders, with a special focus on community-led actions. He has led research on climate risks and adaptations for multilateral, intergovernmental organizations and devised India's first-of-its-kind Climate Vulnerability Index for India. He was the Founding Centre Director at the Centre for Environment, Energy and Climate Change under the aegis of the Ministry of Environment, Forest and Climate Change, Government of India, where he pursued and led intense research on climate finance, climate change risks, agricultural risk assessment, water resources management, disaster economics, climate change governance, and allied issues.

He is also a member of the American Geophysical Union (AGU). He has presented in many national and international forums. His columns also feature and are widely read in various Indian national and international dailies.



Dr Deepak Samuel V

Dr Deepak Samuel V completed his graduation in Zoology and post-graduation in Marine Biology and Oceanography and obtained his doctorate degree in the same subject in the year 2004. He is the Scientist "E" and Project lead at the Conservation of Coastal and Marine Resources Division (CMR), a division of the National Centre for Sustainable Coastal Management, Chennai.

To his credentials, he has given 81 invited talks, 45 seminars and conferences, and he was also the guest editor of the journal, 'Wetland Ecology and Management'. He has authored 21 books/manuals/chapters and more than 51 papers with many in proceedings.

To add to his stints, he had joined as Assistant Professor at Eritrean Institute of Technology, Africa and Later at Madras Christian College, Chennai.

Ms Swati Ganeshan has over 16 years of research experience and media experience. Her research is largely focused on policy and geopolitical analysis, and multilateral cooperation in the field of energy, climate, oceans and SDGs. She was an Independent Consultant working on projects for the European Commission among others. She is also a Hon. Adjunct Fellow with the National Maritime Foundation, Delhi.



Ms Swati Ganeshan

Swati was a Fellow and Area Convener, at the Centre for Resource Efficiency & Governance, The Energy and Resources Institute (TERI), New Delhi for 12 and half years. She has led and contributed to research on the Blue economy in Asia-Pacific, Blue economy and sustainable development issues, regional energy cooperation, carbon-neutral strategy roadmap for Indian States, the role of energy in the European Union (EU) and emerging power relations (emerging 5), assessing energy risks across fuels, coal and nuclear energy, hydro politics in GBM basin, critical non-fuel minerals for India's strategic interests, and global and regional energy security cooperation, among others.

She has led and been part of projects supported by the Asian Development Bank, AETS France, the European Commission, and UNESCAP, amongst others. Swati has a Master's in International Studies (Security Studies) from the University of Birmingham, UK, and Masters in Mass Communication from Jamia Millia Islamia University, Delhi and a Bachelor's in Journalism from Kamala Nehru College, New Delhi.



Cdr (Dr) Kapil Narula

Cdr (Dr) Kapil Narula holds an interdisciplinary PhD in Economics and a master's degree in Electrical Engineering. He has over 20 years of versatile work experience across India, Europe and the WANA region while leading several teams in the shipping industry, government, international organisations, think tanks and universities. He works on technical, environmental and social aspects of energy transition and sustainability.

He is the author/editor of seven books, and more than 100 articles/papers and is on the Editorial Board of ten academic journals. After a short stint as a Lead (Adviser) (Energy) at the rank of a Joint Secretary at NITI Aayog, Government of India, he joined the United Nations as an international civil servant. He is currently working on energy sustainability issues at UN Economic and Social Commission for Western Asia (UNESCWA), Beirut.



Dr Pushp Bajaj

Dr Pushp Bajaj is currently working as a National Consultant on Blue Economy and G20 at UNDP in India. Previously, he was a Research Fellow and the Head of the Blue Economy and Climate Change Cluster at the National Maritime Foundation in New Delhi, India. His research areas of interest include climate change impacts on India's maritime and naval security, climate resilience of India's critical maritime infrastructure, India's domestic and foreign climate policies, sustainability in the maritime domain, and the Blue Economy.

He was recently recognised as a Fellow of the 2021-22 Coalition for Disaster Resilient Infrastructure (CDRI) Fellowship. Dr Bajaj has published several articles in international peer-reviewed journals and reputed digital and print news platforms and magazines on sustainable development, climate science, climate change mitigation and adaptation, climate policy, and related areas. He received his PhD in Chemistry from the University of California, San Diego, USA, where he was a graduate researcher for the NSF-funded Center for Chemical Innovation - Center for Aerosol Impacts on Chemistry of the Environment based in San Diego, CA, USA. He is an alumnus of the Indian Institute of Technology Madras in Tamil Nadu, India and St. Stephen's College of the University of Delhi, India.



Ms Marion Velut
Counsellor Sustainable Development
Regional Economic Department for India and South Asia
The French Embassy

Ms Marion Velut



Cdr Prashant K Srivastava (Retd)

Cdr Prashant Kumar Srivastava is an ex-naval officer who has more than two decades of maritime experience. He has a doctorate from Goa University and is an International Hydrographic Organization (IHO) qualified Cat 'A' Hydrographer, who has vast experience in the field of bathymetric surveying and oceanography. He has held important staff and training appointments in the Navy, he was the Chief Instructor at the National Institute of Hydrography, Goa, and the command of naval research vessels. He has also served as the Hydrographic Chief of the Inland Waterways Authority of India (IWAI), Ministry of Shipping where he was instrumental in conceptualising and successfully executing the innovative and technologically intensive project on "River Information Systems (RIS)" on National Waterways (NW- 1) being the first of its kind in the South Asian region.

Presently, he is appointed as an Advisor in the Ministry of Earth Sciences (MoES), New Delhi. His responsibilities include supervision and monitoring of the marine sciences programmes and projects being implemented by the MoES institutions like the Indian National Centre for Ocean Information Services (INCOIS), the National Centre for Coastal Research (NCCR), Centre for Marine Living Resources and Ecology (CMLRE), the National Institute of Ocean Technology (NIOT) and the Blue Economy policy and governance, International cooperation, etc.

EXECUTIVE DIRECTOR, NMF



Commodore Debesh Lahiri

An alumnus of the Naval Engineering Course (NEC), Naval Engineering College, INS Shivaji, Lonavala and College of Defence Management (CDM), Secunderabad, Commodore Debesh Lahiri was commissioned into the Indian Navy on 25 Nov 1988. He is a Marine Engineer by profession and has completed his Master's (MTech) from the Indian Institute of Technology (IIT), Chennai. He has completed a World Bank programme on Alternate Dispute Resolution-Arbitration, Conciliation and Mediation. He was the Deputy Naval Attaché at the Embassy of India, Moscow, and has been at the helm of two Naval ship Repair Yards, at Port Blair and Karwar respectively.

He has a wide experience at sea, having been Engineer Officer on three different types of propulsion, viz. Internal Combustion Engines (Ghorpad), Gas Turbines (Veer) and Steam (Udaygiri, Ganga, Gomati and Beas) and has also been the Fleet Engineer Officer, Western Fleet. He has been the Additional General Manager (Quality Assurance and Production) at Naval Dockyard, Mumbai, and is well-versed in Human Resource Management, having been Director of Personnel at Naval Headquarters. As Commodore Dockyards, he was responsible for the creation of marine infrastructure in the Navy. He is a fellow of the Institute of Marine Engineers (FIMarE) and his papers have been published by the American Society of Mechanical Engineers (ASME), Society of Automotive Engineers (SAE), International Naval Engineers Conference (INEC), Indian National IC Engines Conference and the Journal of Marine Engineering. He has also authored service papers on matters of importance to the Indian Navy and has written a dissertation on Comprehensive National Power.

PROGRAMME EXECUTIVE, NMF



Ms. Divya Rai

Ms Divya Rai is the Programme Executive at the National Maritime Foundation, New Delhi, India. She organises NMF's advocacy events, develops and manages programs, and prepares roadmaps and timelines of NMF engagement activities with government and non-governmental organisations, International and National Think-Tanks. Prior to this, she did an internship with the NMF, focusing on the Indo-Pacific geostrategy of China. She is also conducting her research at the NMF on East Asian countries (Japan and Taiwan).

She is conducting her research on various issues in South Asia such as regional and intra-regional connectivity, Economic outlook and issues, environmental issues and maritime connectivity and analysing the criticality of BIMSTEC. She has published articles in reputed digital and print news platforms and magazines on issues pertaining to South Asia and its impact on South Asian countries, and geopolitics. She holds a Master's Degree in Defence and Strategic Studies and a Bachelor's degree in Physics, Mathematics, and Defence and Strategic Studies from the University of Allahabad, Prayagraj.

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