



MRC Felicitation of

Shri Pradeep T. Rawat,

Chairman National Shipping Board

and Panel Discussion on

Sustainable Marine Logistics and

Opportunities for Young India

Programme Report

The Maritime Research Centre (MRC) working under the aegis of the Indian Maritime Foundation (IMF), Pune is dedicated to take forward the concept of Underwater Domain Awareness (UDA) in the Indian Ocean Region (IOR). The concept of UDA does have significant relevance to “Safe, Secure, Sustainable Growth” for nations in the IOR. The shipping industry in India is at the threshold of massive growth with the government providing infrastructure and policy support for its growth in the recent times. However, there are aspects of sustainable growth that deserve attention. The UDA framework provides a comprehensive way ahead that address the policy issues and technology and innovative solution requirement to achieve a safe, secure and sustainable growth in the IOR.

MRC organized an event on 02 Nov 2017 at 1600 hrs, to felicitate Shri Pradeep Trimbak Rawat along with prominent intellectuals and progressive citizens of Pune, on his assumption of responsibility as the Chairman of the National Shipping Board. A panel discussion on “Sustainable Marine Logistics and Opportunities on Young India” was also held with him as the chair.

The event kicked off with the welcome address by Cmde Rajan Vir, President IMF, where he articulated the achievement of IMF over the last 24 years and he expressed his deep satisfaction at the tremendous progress made by MRC in such a short span of time. Dr(Cdr) Arnab Das Founder Director MRC made a detailed presentation on the concept of UDA and how it is relevant to the governments initiative to build maritime infrastructure in the IOR. His presentation was well received by all the participants and appreciated for the depth and width. Everyone recognized the relevance of UDA for India of the 21st century particularly to overcome the geo-strategic challenges in the IOR. The MRC advisers complemented the issues brought out by Director MRC and reiterated that UDA deserves recognition and strengthening by all the stakeholders and associated authorities and agencies. Capt Inderjit Roy expressed concern at the state of affairs in the maritime sector in India and appealed for far higher cooperation. Mr. Praful Talera thanked all the participants for having joined the panel discussion and reiterated MRC resolve to take this initiative forward. Vice Admiral DSP Varma, Former DG ATVP insisted that pooling of resources as envisaged by UDA is the only way forward to address the complex and diverse challenges of the maritime domain in the IOR. He listed out a few actionable points that merit attention of the participants while deliberating on this important issue.

Mr. Pramod Chaudhary, President MCCIA recognizing the significant potential of UDA for innovation and entrepreneurial opportunities, acknowledged the requirement to take forward the concept on an urgent basis. He further brought out that there is dire need to make people aware of the complexities and opportunities of UDA in IOR. Dr. E Bharucha, Principal Environmental College at the Bharati Vidyapeeth University Pune, appreciated the importance given to the environment and bringing out the completely new dimension of Acoustic Habitat Degradation. He also articulated the requirement of better awareness to plan any marine conservation effort and recognized that UDA can play very critical role. Mr. Anil Deoli, CEO of the Indian Ship Owners Association expressed his happiness to be part of such a unique

discussion and brought out that the maritime domain has significant policy gaps that need to be listed out and far more research is needed to understand the dynamics. He urged all stakeholders to come together, overcoming the binaries that exist, to work on the comprehensive framework presented by UDA. Other dignitaries who participated in the event, include Prof V Shinde VC Deccan College Post Graduate & Research Institute, Shri Manoj Pochat, Senior Consultant IBM, Dr. Naveen Namboothri Director Dakshin Foundation, Prof (Mrs.) Manisha Khaladkar COEP, Shri Ketan Shah, Shri Bhupal Patwardhan, Prof Govind Kulkarni Director Athena Academy of Geopolitics, Shri Vijay Wadai Principal Trinity College, Capt Ravi Hazarnavis, Capt Anand Dixit, Mr. Pragnesh Podar, Mr. Kartik Pinge and more.

Shri Pradeep Rawat in his remarks, acknowledged our failure as a nation to recognize our maritime status, in spite of the long coastline and also India's position in the IOR. He gave very profound evolutionary examples to state that life began in the oceans and we not recognizing the importance of the oceans could mean danger to mankind. He appreciated the book written by Dr (Cdr) Arnab Das and mentioned that the contents of the book are extremely relevant to the India of today. He emphasized that science and technology of today has a lot to learn from the nature. The emergence of China today is attributable to their maritime vision. He mentioned that there was a time when China and India were at par, however due to our lack of strategic maritime vision we were left far behind. He called upon India being seen as a Maritime Power and our own strategic vision to be stepped up met the challenges of the future.



Chief Guest meeting VAdm DSP Varma



President IMF Felicitates Shri P Rawat



President IMF Welcomes President MCCIA



Guests at the Maritime Museum

Programme Details

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MRC would like to felicitate Shri Pradeep Trimbak Rawat along with prominent intellectuals and progressive citizens of Pune, on his assumption of responsibility as the Chairman of the National Shipping Board. We would like to present to him our unique concept of UDA and apprise him of its relevance in the IOR. We would also encourage a discussion on “Sustainable Marine Logistics and Opportunities on Young India”. A concept paper is attached for your kind perusal. His guidance to take forward the UDA concept for a larger contribution to the effective maritime growth will be extremely valuable for MRC. The broad outline of the programme is as follows:

1600 hrs	-	Guests Arrive MRC.
1605 hrs	-	Welcome Address by President IMF, Pune.
1610 hrs	-	Presentation by Director MRC.
1640 hrs	-	Comments by MRC Advisers.
1650 hrs	-	Comments by Guests.
1700 hrs	-	Deliberations.
1725 hrs	-	Felicitations Ceremony.
1730 hrs	-	Address by Chief Guest.
1750 hrs	-	Vote of Thanks.
1755 hrs	-	Tea and Networking.

Concept Paper
Sustainable Growth for Marine Logistics with Underwater
Domain Awareness framework

Dr(Cdr) Arnab Das and Mr. Praful Talera
Maritime Research Centre
Indian Maritime Foundation, Pune

Maritime trade will continue to be the key to international trade and the prime driver for global economy. This translates to steady increase in the maritime traffic and every nation has to maximize its share in the marine logistics chain. No global power has attained its economic status without substantial contribution of the maritime sector to its GDP. It demands an integrated approach to achieve a level of synergy among the maritime stakeholders to propel its national objectives. “Safe, Secure, Sustainable Growth” remains the buzz word.

The maritime shipping is the single ubiquitous source of low frequency ambient noise in the ocean. Radiated noise from the marine vessels as a result of its onboard machinery operation is a major source of ambient noise. The volume and well distributed nature of marine traffic makes it an effective contributor to ambient noise. Reliable scientific data reveals a 3 dB per decade rise in the ocean ambient noise due to shipping, since the 1950s (since the data is available). This means doubling every ten years and the trend is only going to continue as global economic trend and its dependence on maritime trade is strongly linked. The advancement of technology has not improved the situation in the past. The irony is that stealth technology for the naval platforms is a given thing however, in the absence of regulatory provisions the profit conscious merchant marine fleet is reluctant to adopt such quietening measures.

Marine species, particularly the mammals are known to use sound for biologically critical functions like foraging, navigation, communication, breeding, avoiding predators and more. They use acoustics to perceive (acoustic vision) the environment around them. The growing ambient noise particularly in the low frequency band interferes with their perception of the surrounding and degrades their well being as a species. This is particularly termed as Acoustic Habitat Degradation. The big whales (Blue whales, Bryde whales, Sperm Whales and lot more) have overlapping hearing frequency band with the shipping noise and we are witnessing more frequent stranding of such species and subsequent fatalities. The extent of acoustic habitat degradation is extremely alarming.

The United Nations (UN) way back in 1982, in its declaration of the Convention on the Laws of the Sea (UNCLOS) articulated the hazards of noise in the ocean to marine species. However, even after thirty five years, it is yet to take shape of a regulation. The International Maritime Organization (IMO) in its Kobe (Japan-2002) convention recognized the impact of shipping noise on the marine mammals and accepted to take forward the regulatory framework. They have declared few zones as Particularly Sensitive Sea Areas (PSSAs) and banned shipping in those declared

areas as a response to acoustic habitat degradation of the marine eco-system. It may be considered that noise in the open ocean, particularly in the low frequency band cannot be restricted to a specific area and shipping noise contributes to the broad background noise. More recently, the European Union through its Marine Strategy Framework Directive (MSFD) has tried to regulate the noise emissions from ships in the EU region. There are multiple other regulatory instruments in place, in Europe that address this concern of noise in the ocean. The Marine Mammal Protection Act (MMPA) in the USA is one of the pioneers to implement the Precautionary Principle of Environmental Conservation related to noise in the ocean however, its effectiveness on ground is far from desired.

In India, the 21st century is witnessing a major maritime push and significant infrastructure investments are being initiated by the government. This is likely to substantially boost maritime trade and consequent noise in the Indian Ocean Region (IOR). The IOR has also gained strategic relevance due to multiple geo-political and geo-economic factors making it a major transit route for global trade and also presence of extra-regional powers to safeguard their strategic interest. We have recently witnessed repeated stranding of big whales in the west coast of India. An RTI application reveals that over 80 marine mammal strandings have been reported in the Maharashtra Coast over the last two years alone. The trend is of steady rise. This indicates a serious ecological concern largely attributable to acoustic habitat degradation.

The gloom is real and serious however, the awareness among the practitioners and the policy makers is abysmally low, making it an even bigger cause of concern. The conservation initiative lead by the marine biologist ignores the acoustic component and only mentions it in the passing without serious investigation. The IOR due to its geo-political dispensation demands that India plays a leading role and our recent posturing in the global forum in terms of diplomacy and power play does demand that we present ourselves as a progressive nation with sound technical understanding, real know-how and policy framework.

The Underwater Domain Awareness (UDA) in the IOR is a concept that deserves national priority particularly for an India of the 21st century. UDA in its basic construct means our understanding of the underwater domain that translates to monitoring developments and ensuring interventions to prevent events. The four stakeholders of UDA are the National Security Apparatus like Navy, Coast Guard, Marine Police and more, the Blue Economic entities like the Offshore, Shipping, Fisheries and many more, then we have the Environmental Regulators and Disaster Management Authorities and lastly the Science and Technology providers both in the government and the private sector. The independent and isolated approach of each of the stakeholders so far has meant lack of resources and also turf wars resulting in attempts to block each other's efforts. The UDA is a highly resource intensive concept and only pooling of resources by the stakeholders can provide a comprehensive way ahead for a Safe, Secure, Sustainable Growth for India in the 21st century.

The so called "Gloom", can be a big opportunity as well for a nation with so called demographic dividend, where the greatest national challenge in the near future is going to be jobs for the young generation. The late recognition by our policy makers

that we are a maritime nation with over 7,500 km coastline has ensured sea blindness on multiple fronts. The effective UDA can provide massive opportunities in terms of sustainable entrepreneurship in the technology sector and services sector as well in addition to innumerable career prospects in multiple blue economy sectors. The strategic position of India in the IOR encourages us to take the lead and work on a regional regulatory framework, very vital for any maritime initiative. We take pride in our Defence Public Sector Undertakings (DPSUs) contributing to the indigenous shipbuilding for the Navy and the Coast Guard. This could be taken to the next level, supported by regulatory provision for the merchant ships to adopt stealth features for a sustainable acoustic habitat. The global regulatory efforts are aggressively pushing for quiet ships and if we in India do not keep pace with the global trends, the ongoing big maritime project may find itself outdated. A UDA based Indian Maritime Strategy framework is the way to go.

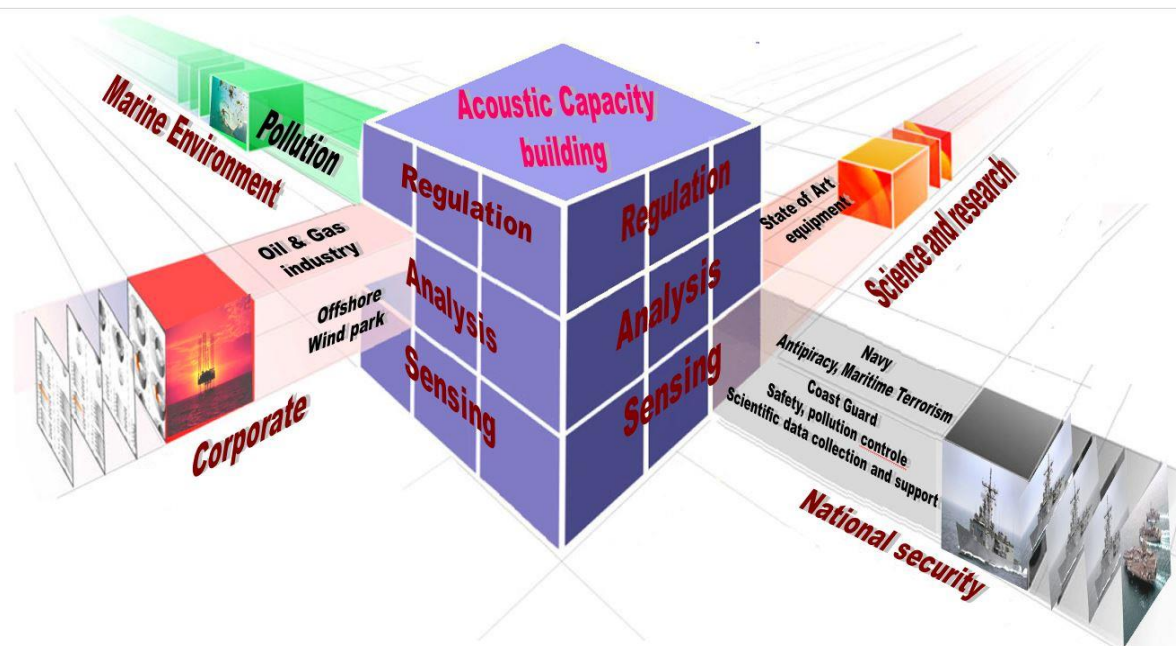


Fig. 1 Comprehensive Perspective of Underwater Domain Awareness

The authors will be very keen to work on a comprehensive report to articulate all aspects of the “**Sustainable Growth for Marine Logistics with Underwater Domain Awareness framework**” for consideration at the appropriate level for policy formulation.

Guest List

1. Mr. Pradeep Trimbak Rawat, Chairman National Shipping Board-**Chief Guest**
2. Mr. Pramod Chaudhary, President MCCA.
3. Vice Admiral DSP Varma (Retd), Former DG ATVP.
4. Prof Vasant Shinde, Vice Chancellor, Deccan College P&RI.
5. Cmde Rajan Vir (Retd), President IMF.
6. Dr. Erach Bharucha, Principal Environmental College & Research, BVDU.
7. Mr. Anil Deoli, CEO Indian Ship Owner's Association.
8. Mr. Pragnesh Podar
9. Mr. Ketan Shah,
10. Mr. Manoj Pochat, Senior Consultant IBM.
11. Dr. Naveen Namboothri, Director Dakshin Foundation, Bangalore.
12. Mr. Bhupal Patwardhan.
13. Mr. Kartik Pinge.
14. Mr. Praful Talera, MRC Adviser.
15. Capt Anand Dixit, Vice President IMF.
16. Capt Inderjit Roy, MRC Adviser.
17. Prof. Vijay Wadai, Principal Trinity College.
18. Dr. Manisha Khaladkar, COEP Pune.
19. Capt Ravi Hazarnavis, Senior Vice President IMF.