Webinar on 26 Feb 2025 at 1530 hrs IST
India-Philippines Maritime Dialogue: A New Perspective Based on Underwater Domain Awareness (UDA) Framework

India and the Philippines share a long history of diplomatic relations, dating back to 1949 when India established its diplomatic mission in Manila. Over the years, both nations have strengthened their engagement **in trade, culture, and defence**, with a significant focus on maritime security due to their **strategic locations in the Indo-Pacific region.** Recent developments have further deepened this relationship. In April 2024, India delivered BrahMos cruise missiles to the Philippine Navy, marking a significant step in defence cooperation. This partnership was further reinforced through the **Inaugural India-Philippines Maritime Dialogue** held in Manila on December 13, 2024, aimed at enhancing cooperation in maritime security, promoting adherence to the rules-based order, particularly the UN Convention on the Law of the Sea, and discussing areas of collaboration such as **Maritime Industry, Marine Scientific Research, Ocean Economy, Humanitarian Assistance and Disaster Relief (HADR), Navy and Coast Guard cooperation, and maritime law enforcement.**

During the 5th meeting of the Joint Commission on Bilateral Cooperation (2023), both sides emphasized enhancing defence cooperation, particularly in maritime security. Both Ministers underscored the importance of maritime domain awareness (MDA) and the operationalization of the **Standard Operating Procedure (SOP) for the White Shipping Agreement** (Information Network Protocol) between the Indian Navy (IN) and the Philippines Coast Guard (PCG). They also explored expanding collaboration in **cyber security, artificial intelligence, space cooperation, and anti-terrorism measures**. The Ministers engaged in wide-ranging discussions on regional and international issues, particularly China's growing assertiveness and territorial claims in the South China Sea, emphasizing peaceful dispute resolution and adherence to international law (UNCLOS), including the 2016 Arbitral Award on the South China Sea.

India is focusing on maritime-security cooperation with ASEAN and Southeast Asian states, vocally supporting their territorial claims in the South China Sea to counter China's regional influence and protect its freedom of navigation. Over **55% of India's trade passes through the South China Sea and Malacca Strait**, making this a key priority for New Delhi. Additionally, India seeks to prevent China from setting precedents that could affect the Indian Ocean, where Beijing could become more assertive in its dealings with India and its neighbors.

An increase in strategic dialogues has also bolstered defence cooperation, with the India-Philippines **Joint Defence Cooperation Committee (JDCC)** established under the MoU on Defence Cooperation signed in 2006. In September 2024, the JDCC was elevated to the secretary level, reflecting the growing defence relationship. Since 2006, India and the Philippines have conducted **joint naval exercises whenever**

Indian ships make a port visit to the Philippines. In 2019, India participated in a "group sail" in the South China Sea involving the Filipino, U.S., and Japanese navies, and in 2023, India and ASEAN held their first-ever military exercise, including the Philippines. In 2022, the Philippines became the first country to purchase the Brahmos supersonic cruise missiles developed by India and Russia which was delivered in April 2024. In November 2023, India offered seven helicopters to the Philippines Coast Guard, enhancing its humanitarian and security capabilities. In March 2024, the Philippines launched its **Comprehensive Archipelagic Defence Concept (CADC)** to protect its territorial waters and exclusive economic zone (EEZ), aiming to deter Chinese assertiveness in the South China Sea. Both India and the Philippines stand to benefit from exploiting their complementarities. **Capacity building** of the Philippines' armed forces will enhance India's credibility as a reliable defence partner in the Indo-Pacific. Additionally, the Philippines' ambitious **military modernization program** presents a lucrative opportunity for the Indian defence industry to boost defence exports.

The **Maritime Research Center (MRC) and NirDhwani Technology (NDT)** can play a pivotal role in strengthening India-Philippines cooperation by providing a technology-driven decision-making framework based on **Underwater Domain Awareness (UDA).** They contribute to capacity building through e-learning modules and skilling programs for maritime professionals while facilitating stakeholder engagement for both government and non-government entities in India and the Philippines. Additionally, they implement **digital coastal empowerment strategies to support ocean-dependent communities, ensuring sustainable maritime security and economic development.**

This webinar serves as a timely initiative to advance India-Philippines cooperation in maritime security and sustainable ocean governance. Given the **geopolitical dynamics of the South China Sea and the Indian Ocean**, both countries must collaborate on **knowledge-sharing, capacity-building**, and strategic policymaking. The event brings together **experts from India and the Philippines** to discuss mutual concerns and explore **joint opportunities in UDA, maritime security, and community empowerment.**

Program 26 Feb 2025 at 1530 hrs IST
Opening Remarks (10 min)
Mrs. J Cathrine, Research Head, Maritime Research Center, Pune – Overview of the webinar and objectives
Introductory Remarks (15 min)
Dr (Cdr). Arnab Das, Founder & Director, Maritime Research Center, Pune– Underwater Domain Awareness and its relevance for India-Philippines relations.

Speaker Sessions
> UDA Technologies – Challenges and Opportunities (10 mins) – **Mr. Shridhar Prabhuraman**, Deputy Director, Maritime Research Center.

India-Philippines Relations (10 min) – **Prof. Mimi Fabe**, National Police College, Philippines.

Maritime Security (10 min) – **Prof. Sey Santos**, Chief (Faculty Section), National Police College, Philippines.

Ocean-Dependent Communities & Maritime Security (10 min) – **Ms. Joan Andrea Toledo**, National Police College, Philippines.

Strategic Cooperation & Policy Perspectives (10 min) – **Dr. Shabana Barua,** Associate Professor and Director, NKCSEAS at Jindal School of International Affairs, Sonipat.

India's Blue Economy and Regional Engagement (10 min) – **Dr. Shishir Shrotriya, Center for Maritime Economy and Connectivity (CMEC),** Research and Information System for Developing Countries (RIS), New Delhi.

Concluding Remarks
Vice Admiral M P Muralidharan (Retd), AVSM & Bar, NM, Former DG Indian Coast Guard.

Vote of Thanks
Mr. Praful Talera, Blue Economy Advisor, Maritime Research Center, Pune.

Convenor

Mrs. J Cathrine, Head Research & Publication, MRC Pune

E-mail   -   cathrine.j@maritimeresearchcenter.com

Mobile   -   +91-9205725139

Underwater Domain Awareness (UDA) Framework

The concept of Underwater Domain Awareness (UDA), in a more specific sense, will translate to our eagerness to know what is happening in the underwater realm of our maritime areas and the freshwater systems. This keenness for underwater awareness from the security perspective means defending our Sea Lines of Communication (SLOC), coastal waters, and varied maritime assets against the proliferation of submarines and mine capabilities intended to limit access to the seas and littoral waters. The freshwater systems, particularly the transboundary Rivers, are not defended by the Navy & the Coast Guard, but these waters are equally vulnerable and more complex to manage. However, military requirements may not be the only motivation for generating underwater domain awareness. The earth's underwater geophysical activities have a lot of relevance to the well-being of humankind, and monitoring them could provide vital clues to minimize the impact of devastating natural calamities. The commercial activities in the underwater realm need precise inputs on the availability of resources to effectively and efficiently explore and exploit them for economic gains. Underwater resources include fisheries, aquaculture, seaweeds, pharma ingredients, minerals, and others with significant market value. The regulators, on the other hand, need to know the pattern of exploitation to manage a sustainable plan. The connectivity through the water bodies has been recognized as the most effective and efficient mode of transportation, however, ensuring navigability in these water bodies requires a massive amount of UDA.

With so many commercial and military activities, there is a significant impact on the environment. Any conservation initiative needs to precisely estimate the habitat degradation and species vulnerability caused by these activities and assess the ecosystem status and climate change risk. The scientific and research community needs to engage and continuously update our knowledge and access of the multiple aspects of the underwater domain. The global community is looking at the Indo-Pacific strategic space for their geopolitical and geostrategic engagements. The Indo-Pacific region, by definition, is the tropical waters of the Indian and Pacific Oceans. The tropical waters present unique challenges and opportunities regarding rich biodiversity and resource availability. However, the sub-optimal sonar performance is the biggest issue, limiting the UDA in these regions. The sonars that were designed for the temperate & polar waters of the Greenland, Iceland, United Kingdom (GIUK) gap during the Cold War era suffered 60% degradation when deployed in tropical waters. The developing nations in tropical waters need to customize these technologies to suit their conditions. The Western nations that are pushing this hardware do not have the manpower to deploy it. In contrast, the tropical nations, have the manpower but lack the appreciation of the technology and the know-how. The proposed UDA Framework, presented in the figure below, can optimize resource deployment and provide nuanced policy and technology intervention, along with acoustic capacity & capability building to manage the tropical challenges and opportunities. There is significant fragmentation among all four stakeholders, namely Strategic Security, Blue Economy, Sustainability

& Climate Change Risk Management, and Science & Technology (Digital Transformation), and the UDA framework provides a comprehensive way forward for the stakeholders to engage and interact.
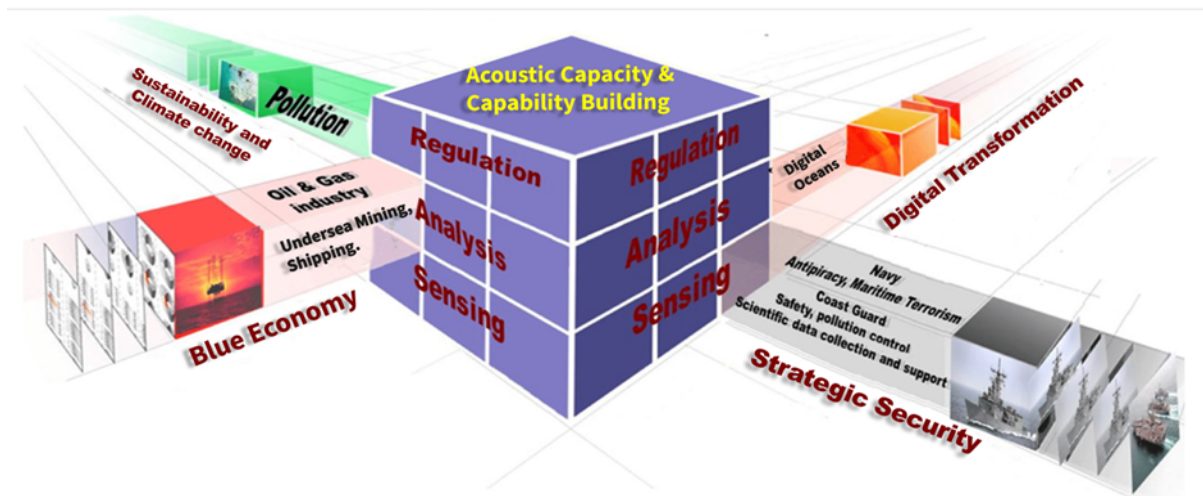

Figure. Comprehensive Perspective of the UDA Framework

On a comprehensive scale, the UDA Framework needs to be understood in terms of its horizontal and vertical construct. The horizontal construct would be the resource availability in terms of technology, infrastructure, capability, and capacity specific to the stakeholders or otherwise. The stakeholders represented by the four faces of the cube will have their specific requirements, however, the core will remain the acoustic capacity and capability. The vertical construct is the hierarchy of establishing a comprehensive UDA. The first level, or the ground level, would be the sensing of the underwater domain for threats, resources, and activities. The second level would be making sense of the data generated to plan security, conservation, and resource utilization strategies. The next level would be to formulate and monitor regulatory framework at the local, national, and global levels. The individual cubes represent specific aspects that need to be addressed. The 'User-Academia-Industry' partnership can be seamlessly formulated based on the user requirement, academic inputs, and the industry interface represented by the specific cube. It will enable a more focused approach and a well-defined interactive framework. Given the appropriate impetus, the UDA Framework can address multiple challenges being faced by the global community today. Meaningful engagement of the young and aspirational population is probably the most critical aspect that deserves attention. Multi-disciplinary and multi-functional entities can interact and contribute to synergize their efforts towards a larger goal seamlessly.

The UDA Framework is a structured, comprehensive, and inclusive framework to drive the underwater domain effectively and efficiently. The structured approach will minimize the fragmentation among the stakeholders, regional players, national authorities, and local bodies. The multiple entities will have divergent interests and priorities, thus, converging them into one single and focused governance mechanism will be a challenge. The governance mechanism must be comprehensive and recognize all dimensions of the stakeholder requirement. The dimensions include

varied layers that are instrumental in building a strong governance mechanism. The first layer would be five pillars: research, skilling, academia, innovation, and policy. The second layer is its translation into policy & technology intervention, along with acoustic capacity & capability building. The inclusive aspects include varied socio-economic, socio-political, and socio-cultural native groups in the larger governance framework. The varied socio-economic strata of the society, particularly the coastal & riverine communities, get excluded in the conventional development models. The students need to prepare for real-world challenges and get very late before they get exposed to the nuances of real-world issues. The political spectrum is always driven by the social structure, based on left or right leanings. The governance mechanism has to address the concerns and aspirations of both sides. The cultural divide translates to the traditional practices and beliefs that drive their livelihoods and social structure. The governance mechanism has to address these divides and integrate everyone into one national, regional, or global framework.

The global community is also professing the triad of people, economy, and nature for enhanced governance mechanisms. The people component includes the livelihood, well-being of the native communities, social dynamics, and more. The economic component is the growth and prosperity associated with the activities. The nature component addresses sustainability and climate change risk management. This is also measured in terms of the Environmental, Social, and Governance (ESG) formulation. The UDA Framework is consciously addressing all these varied measures of global good parameters.