HONG KONG CONVENTION 2009 AND INVENTORY OF HAZARDOUS MATERIAL (IHM) AND THE UNCLOS HIGH SEAS TREATY, CONFLICTS, CHALLENGES AND EMERGING MARITIME REGULATION.

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1.0 INTRODUCTION :

The Community Need for the Convention and IHM

During last two to three decades, Maritime Trade increased substantially. While trade flows continued to expand by 2.2% in 2024 over 2023, sea borne trade in ton miles increased by 5.9 per cent in 2024 over 2023, close to three times the increase in the volume of Maritime Trade. However, correspondingly fresh steel production has been stable since 2020.

The urbanization also increased demand for Reinforced Cement Concrete (RCC) and structural steel thereof.

The steel scrap of ships is an ideal source for urban structural steel requirement by re-rolling. Thus, Ship recycling rather scrapping becomes imperative.

Also, machinery parts not subjected to 'wear & tear' for e.g. engine blocks, connecting rods, pump casing etc offered scope for re-use.

The increase in Maritime Trade and increase in number of ships (new and recycled), thereof, resulted in preventable mishaps attributable to IHM partly, thereby a need arose for the implementation of this regulation.

1.1 Ship and Steel:

We all have heard the story of Robinson Crusoe marooned on a lonely island and how he survived with a wooden boat catching fish for his survival. Well, from the wooden boats with sails, Maritime Shipping has come a long way from Rhodian Law with steel hulls taking the place of wood, with motor engines and fossil fuel replacing the sails. In an era of sustainability with the 17 sustainable development goals set by the UN for 2030, the Hong Kong Convention 2009 aims at ensuring that, ships when being recycled after reaching the end of their operational lives do not pose an unnecessary risk to Human Health or to the environment.

Ships retain significant economic value at the end of their life. Cradle to grave approach, builder to breaker gives a life span of 20 to 25 years or more. Steel, non ferrous metal and machinery can be recycled and this value can fetch 10% or more of the new building value.

Generally ships reach their end of life when the second hand sale value for further trading drops below their recycling value due to various reasons like ships deteriorating condition, uneconomic repairs, regulatory requirement phasing out etc. A classic example that of single hulled tankers in the early 2000. The ship recycling dominance is in South Asia namely India, Bangladesh and Pakistan. Turkey too has a share in the ship recycling market. India, Bangladesh and Pakistan have lower labour costs and lower compliance costs; hence South Asia has the competitive advantage.

Why then steel production is the driver for ship recycling?

There are two main processes in modern steel making.

1) Melting of scrap in Electric Arc Furnaces (EAF) and 2) Smelting of Iron Ore in Oxygen Blown Converters (OBC). Talking of sustainability the EAF is more environmentally friendly of the two methods, while the OBC requires more energy input as same requires burning of Coking Coal and produces a lot more waste.

In 2025, a total of 1.85 billion tonnes of new steel was produced worldwide. Roughly 30 to 40% of this total production is manufactured from recycled steel amounting to over 600 million tonnes of scrap used annually. There are three sources of scrap steel for steel making 1. 'Own arisings' which arise internally from steel mills as rejects from melting, casting and rolling, 2) new steel scrap which is generated when steel is fabricated into finished products and 3) old steel scrap which is scrap steel from obsolete products (including ships) sold to steel plants for remelting.

In this scenario India and Turkey are in the fifteen large steel producing countries of the world. Pakistan produces inappreciable quantity of steel and ship recycling industry provides scrap steel resource for rerolling and melting.

Bangladesh produces negligible new steel and based on EAF, the recycled scrap steel goes to the rerolling market due to urbanization needs of a dense population.

The selling and purchasing of end of life ships follows a certain 'Protocol of Delivery' and 'Acceptance'. The recycler has to contend with two key volatile factors viz. a) domestic steel prices and b) domestic currency exchange rate with the US Dollar.

Ship recycling is an informal Industry wedged between the powerful sectors: The steel industry and the shipping industry. When demand for shipping is healthy and charterers are paying good rates for the hire of ships, the volume of tonnage offered for recycling decreases. Ship Recyclers may increase their offer to tempt more tonnage to come out of trading, but the prevailing price of steel forms a natural ceiling on how much recyclers can afford to pay.

Conversely, when the shipping markets are depressed more tonnage is offered for recycling and consequently, recyclers can reduce the prices for ships demolition.

2.0 HONG KONG CONVENTION AND ITS BACKGROUND:

In the 1990's International attention focused on the poor working conditions in ship recycling yards following reports of recurring accidents with fatalities and also of degradation of the environment through persistent pollution.

The environmental activists led by Green Peace International, campaigned to bring ship recycling into the public attention. The environmental NGO's took their campaign to the meetings of the Basel Convention that was established under the United Nations Environment Programme and which happened to be the forum of Ministries of Environment of Member States of the UN. At this time Government of Norway led some initial discussions at the International Maritime Organization (IMO) on the need to address the future with respect to the recycling of ships with an International Regulatory Instrument.

2.1 The Role of the Basel Convention:

The Basel Convention on the Control of Transboundary Movements of Hazardous wastes and their disposal was adopted in 1989 and entered into force in 1992. The main objective of this convention is to protect human health and the environment against adverse effects caused by the generation, improper management and transboundary movements of hazardous and other wastes. One of the fundamental aims of the Basel Convention is to ensure that hazardous and other wastes are managed in an environmentally sound manner. As of June 2024 this convention is ratified by 191 countries. In an effort to strengthen protection to developing countries, Conference of Parties (COP2) of the Basel Convention adopted in March 1994, its 'Ban Amendment and the European Waste Shipment Regulation', banning the exports of hazardous wastes from OECD to non-OECD Countries. The 66th ratification by Croatia in September 2019 brought the Ban Amendment into force on 5th December 2019, twenty five years after its adoption.

The subject of ship recycling first entered the agendas of the Conference of the Parties of the Basel Convention. The technical working group in collaboration with IMO legal working group was entrusted to discuss the legal aspects under the Basel Convention relating to the issue of the full and partial dismantling of ships. This was supported by the International Labour Organisation wherein voluntary guidelines were issued on safety and health in ship breaking guidelines for Asian countries and Turkey.

COP7 of the Basel Convention in its decision VII/26 in October 2004, reached an ambivalent compromise position when addressing the question on whether Basel Convention can regulate the movement of end of ships life. The decision said, 'Noting that a ship may become a waste as defined in Article 2 of the Basel Convention and at the same time it may be defined as a ship under other International Rules'.

It further invited the IMO to continue and to consider the establishment in its regulations of mandatory requirements, include a reporting system for ships destined for dismantling, that ensures an equivalent level of control as established under the Basel Convention and to continue work aimed at the establishment of mandatory requirements to ensure the environmentally sound management of ship dismantling, which might include pre-decontamination within its scope. IMO responded positively to this invitation by developing a convention specific to ship recycling namely the 'Hong Kong International Convention for the Safe and Environmentally Sound Recycling of ships 2009', also known as the Hong Kong Convention.

2.2 The Hong Kong Convention - The Initial Years

From December 2003 IMO's assembly adopted Guidelines on ship recycling. Thereafter in December 2005 the 24th session of the IMO assembly agreed to develop a new legally binding instrument on ship recycling that would provide regulations for,

1. The design, construction, operation and preparation of ships so as to facilitate safe and environmentally sound recycling without compromising the safety and operational efficiency of ships
2. The operation of ship recycling facilities in a safe and environmentally sound manner and
3. The establishment of an appropriate enforcement mechanism for ship recycling.

After three and half years the IMO's Marine Environmental Protection Committee (MEPC) submitted the text of the convention to the diplomatic conference convened in Hong Kong China from 11th to 15 May 2009. The conference on 15th May 2009 adopted the final text of the 'Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships 2009' also known as the Hong Kong Convention.

2.3 <u>Highlights:</u>

The Core Part of the Convention Contains 21 Articles that establishes the Conventions main legal mechanism. This is followed by Annex to the Convention that contains 25 regulations divided in four chapters 1. General 2. Requirement for Ships 3. Requirements for Ship Recycling facilities and 4. Reporting Requirements.

The key elements of the mechanics under lying the HKC are the following

- applies to all ships except

  a) Ships below 500 GT,

  b) Government owned non commercial Ships,

  c) Ships operated throughout their life exclusively in waters of the state whose flag the Ship is flying.

- Inventory of Hazardous Materials (IHM) – The Convention requires that ships will be provided with Inventory of Hazardous Materials listed in the Conventions Appendices
- International Certificate on Inventory of Hazardous Materials (ICIHM) – Ships will be issued with ICIHM after an initial or renewal survey by their Flag State or the delegated classification society.
- Ship Recycling Facility Plan (SRFP) – Recycling yards located in Countries that are parties to HKC will document in their SRPF of the yard systems and processes for ensuring safety and environmental protection.
- Document of Authorization to conduct Ship Recycling (DASR).

  This will be issued by the competent Authorities in recycling states parties to HKC to each Authorized Yard within their jurisdiction.
- Ship Recycling Plan (SRP) – Recycling yards in countries that are parties to the HKC, prior to commencing the recycling of a ship, will have to produce a plan based on the specific ships IHM and other particulars.
- International Ready for Recycling Certificate (IRRC) – Prior to the commencement of the recycling of a ship and following a final Survey the IRRC will be issued by the Ships Flag State or by its delegated Classification Society.
- Notification by the recycling yard to its competent Authority/Flag State of the commencement of recycling and further completion of the Recycling.

2.4 Entry into force:

Three conditions were laid out for the HKC to enter into force 24 months after the date the conditions were met. The HKC came into force on 26 June 2025 and a milestone achieved towards sustainability factor under UN sustainable Development Goal 12 viz responsible consumption and production..

3.0 CONFLICTS AND CHALLENGES:

While Ships sometimes carry waste materials as cargo, a ship itself is also considered as waste when the decision is made to dismantle it. Ship may contain various amounts of hazardous materials like asbestos, heavy metals, mineral oil, bilge and ballast water, Polycyclic Aromatic Hydrocarbons (PAH), Polychlorinated Biphenyls ((PCBs), Organotins and Naturally Occurring Radio Active Material (NORM) (Inside Coating of the Storage, Transportation and Production Equipment of Oil and Gas Extraction Units).

Child labour is also an issue in the South Asian Countries. Guaranteeing the rights of worker is the need of the hour. Presently, two thirds of the worlds, merchant end of life ships are currently sold for breaking on beaches. The solution to transform dirty and dangerous ship breaking to sustainable ship recycling will require ship owners to sell their ships to yards that invest in the safety and environmental standard of their operations.

Moving shipbreaking off beaches and onto dry docks and quay sides in regions with capacity to store and treat oily and hazardous waste is one essential step. Ships have been built on dry docks and International Regulations require ship owners to regularly dry dock their vessels for hull inspections. The shift to end of life dry docking would represent a relatively non disruptive solution for the Shipping Industry. If dry docks are important enough to use during the build and control phases, they are also important enough to use at end of life.

Raising the stakes for shipping companies that break the law in 2018, a precedent setting court case found Dutch shipping company 'Sea Trade' criminally liable for illegally exporting end of life ships to beaching yards in South Asia.

Several other investigations on the illegal trafficking on end of life ships have been launched by European enforcement officers. A Scandinavian ship owner was sent to jail for having attempted to illegally export an end of life vessel to South Asia. Claims for negligence in the maiming and loss of lives of Bangladesh ship breaking workers have been settled by two UK based shipping companies.

Breaching international environmental law and obligations to conduct due diligence when choosing business partners are serious crimes. All the related cases have shown that Shipping Companies cannot pass over their responsibility for proper end of life management to cash buyers. Financers of shipping, pension funds, banks are taking a stance against sub-standard practices and against ship owners, (not cash buyers) being held accountable.

3.1 <u>Prosecution under European Waste Shipment Regulation –</u>

Besides the 'Sea Trade' prosecution the other case is the M V HMS Laurence where the Dutch Public Prosecutor agreed to a settlement of Euro 2.2 million which was the amount the owner had earned selling the ship for recycling. The ship owner was fined Euro 780,000. The Captain of the HMS Laurence had already been sentenced by the Dutch Maritime Disciplinary Court in 2015 to a six month conditional suspension to his Masters navigational license**.** Beaching the vessel was in breach of the Captains duty of care to the environment. This first suspension of a European Ship Master revealed that the Crew can be held liable too for violation of European Waste Shipment Regulation.

In the Harrier (ex Tide Carrier, ex Eide Carrier) case for recycling investigation was carried out by Norway's National Authority for Investigation and Prosecution of Economic and Environment Crime for having contravened the EU Waste Shipments Regulation. In Mid Oct. 2019 it was reported that vessel's cash buyer was fined Norwegian Kroner 7 million (approximately USD 765000/-).

Sanctioned vessels dismantled in Alang ship breaking yards in Gujarat, India are struggling because banks are refusing to issue letters of credit needed to buy and dismantle them. These ships mostly old oil tankers have been accused of transporting sanctioned oil from Iran and Russia. Certain individuals involved in the Iranian trade have been sanctioned by US Administration in April 2025. The owners of two shipbreaking yards are now in 2025 facing criminal investigations in Dubai and Far East for money laundering and suspicious connections with Russian oil sector. Four vessels tied to sanctioned entities including Iranian and Houthi aligned web works, engaged in oil smuggling and arms trafficking were dismantled on the Alang beaches of Gujarat controlled by the same yard owner. The sad part is, once dismantling ends and registration dissolved and deletion thereof, leaves no residual evidence.

3.2 Case Study:

In June 2017 a 1800 MT LDT crane barge ran aground at an artificial reef in Mangalore Port Waters, India. It was declared Constructive Total Loss (CTL) and Nairobi Wreck Removal Convention applied. The Salvors who were awarded the Demolition Contract retrieved close to 1400 MT of steel from the barge and seabed which was sold as scrap to the surrounding steel mills in the West Coast Region of India.

In this case, if this 1400 MT was not retrieved from the sunken wreck the same would have been lost in the waters of Mangalore Port posing a threat to the environmental waters and fisher folk.

3.3 Summing Up:

Lloyds List Intelligence Data shows in the year 2024, 324 Merchant Ships totaling 4.6 million GT were recycled due to Red Sea disruptions. Volumes are expected to rebound, driven by fleet aging and emission regulations.

With some 1300 tankers and 1250 bulk carriers of above 20 years of age and 680 Containerships still in service which were built before 2005, ship recycling is expected to pick up from this year. More stringent emission regulations entering into force in 2025 will favour modern ships and make some of the oldest Ships obsolete.

4.0 MARINE BIO DIVERSITY BEYOND NATIONAL JURISDICTION BBNJ – HIGH SEAS TREATY.

4.1 An Overview:

Nearly two thirds of the Ocean lies outside the National Jurisdiction or Control of any Country. These areas are the high seas (waters beyond any country's Exclusive Economic Zone) and the deep seabed area (the seabed beyond any country's continental shelf). They contain an exceptional level of bio diversity. There are still over estimated 2 million yet to be identified species in the high seas and little is known about deep seas coral reefs. There are already rules for taking or using resources from the high seas and deep seabed including for Fishing, Shipping and Mining.

Pressures on Marine Bio Diversity from these activities and new uses are expected to increase, as are the impacts of Climate Change and Ocean Acidification. United Nations (UN) Countries decided further rules were needed to deal with these pressures in a co-ordinated way. Thus negotiations towards a new Treaty for the conservation and sustainable use of Bio Diversity began in 2018 and concluded in 2023.

The goal of these negotiations was to address gaps in the international framework governing Marine Bio Diversity in the High Seas. On 19th June 2023 the 'Agreement under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable use of Marine Biological diversity of areas beyond National jurisdiction', also known as High Seas Bio Diversity Treaty was adopted through consensus by UN.

The BBNJ Treaty comes under the umbrella of the UN Convention on the Law of the Sea (UNCLOS). It does not apply to countries own Marine areas (e.g. territorial Sea and EEZ), only to areas beyond any Country's jurisdiction (the high seas and the deep sea bed). It has four areas of focus:

- Access and use of Marine Genetic Resources (MGR),
- Area Based Management Tools (ABMT) (For example Marine Protected Areas (MPA)),
- Environmental Impact Assessment (EIA) for activities of the high seas and
- Capacity building and the transfer of Marine Technology for Developing States.

The BBNJ Treaty is ultimately about stewardship responsibilities of the Ocean and its resources. It provides a platform for improved International Co-operation on the Conservation and Sustainable use of Marine Bio Diversity.

The BBNJ Treaty also addresses issues that cut across all four areas. It makes clear that BBNJ Treaty should not undermine existing relevant legal instruments and frameworks, or relevant global, regional and sectional organizations, but should promote coherence and co-ordination with those bodies. The BBNJ Treaty complements existing agreements and regulatory bodies in the international oceans governance frameworks it does not replace them.

On Friday 19th September 2025, the landmark agreement to protect areas of the ocean beyond National Jurisdiction reached the required 60 State ratifications after nearly two decades of negotiations. BBNJ came into force on 17th January 2026.

4.2 Concerns and Limitations of the BBNJ Treaty

Deep Sea Mining excluded as the Treaty does not regulate seabed mining which remains under the International Seabed Authority (ISA).

Implementation Challenges – Monitoring and enforcement in vast high seas is technically and financially demanding as developing Countries may struggle to conduct EIA's or participate effectively in COP Processes.

- Non Universal Ratification – The United States has signed but not ratified, limiting compliance by major Maritime powers.

- Soft Compliance Mechanism – The Treaty relies more on cooperation than coercive enforcement, raising concerns over compliance for example Illegal, Unreported and Unregulated (IUU) fishing may persist despite new norms.

4.3 <u>Looking Ahead</u>:

A first Conference of Parties (COP) will happen this year in 2026. A Secretariat for the agreement will have to be chosen, Chile and Belgium having expressed interest to host the Secretariat. A Scientific and Technical body will be established which will advise COP on the establishment of Marine Protected Area wherein BIMCO will provide inputs.

BIMCO has already begun the process of engaging members in discussions on the topic related to both Sargasso Sea in the Atlantic Ocean and the Costa Rica Thermal Dome in the Pacific Ocean.

The SARGADOM Project is – flagship initiative (2021-2027) designed to promote the implementation of the BBNJ agreement. It focuses on two ecologically significant high sensitive areas, the Sargasso Sea in the North Atlantic and the Costa Rica Thermal Dome in the Eastern Tropical Pacific.

The SARGADOM Thermal Dome Project is focused on studying and conserving the 'Dome', a unique oceanic feature, located in the eastern tropical Pacific.

The 'Dome' is characterized by the upwelling of nutrient rich cold water, creating a highly productive and valuable marine ecosystem that support diverse marine life including endangered species such as blue whales and sea turtles. It is crucial for Marine Bio Diversity and local fisheries, making its conservation vital for the livelihoods of Coastal communities and ecological balance, it also spans economically vital national and shipping routes.

It is to be noted that the Kunming – Montreal Global Bio Diversity Frame work adopted in 2022, includes several key targets and goals specifically related to marine ecosystems and oceans, recognizing the crucial role of oceans in maintaining Global Bio Diversity and supporting human life. Hence with BBNJ coming into force we can look at greater thrust and momentum toward UN SDG 14 'Life below Water'.

4.4 <u>BIMCO and the Thermal Dome</u>

BIMCO has taken an active role in the SARGADOM project to represent the International Shipping Industry and ensure new regulations are practical.

The SARGADOM project is funded by the French Facility for Global Environment (FFEM) and led by the University of Brest (UBO) in collaboration with Mar Viva Commission and Sargasso Sea Commission.

The SARGADOM Project aims to develop hybrid governance models (Regional and International) to protect the Bio Diversity of two particular areas of the high seas; the Sargasso Sea and the Thermal Dome. SARGADOM is studying proposals for managing environmental pressures and guiding sustainable governance.

This High Seas Treaty is new and French Researchers in International Law are studying legal issues involved in implementing the BBNJ agreement, analyzing the challenges of implementing the agreement in a multidisciplinary approach in both the social and natural sciences.

5.0 CONCLUSION –

Implementation and Impact:

As IHM is a recent development, many in the Maritime Industry and Maritime Trade are not aware of IHM compliance. New resolutions and regulations have fully not withstood the test of time yet. Thus occurrence of loss or casualties can lead to complex Maritime disputes.

The Hong Kong Convention has brought about the Green Passport and the Green Passport EU Class Notation to new ships. The Green Passport is essentially an inventory of all the materials on board a ship which may be hazardous to people's health or the environment and which require careful handling or special awareness. The inventory accompanies the ship throughout its operational life. It is reviewed annually by a class society and renewed every five years. At the end of the vessel's life, the Inventory of Hazardous Materials helps shipbreaking recycling yards formulate safe and environmentally friendly means of decommissioning the ship.

Hence, if the Green Passport or the Class Notation of Green Passport EU has come about and there to stay, we must be grateful say thanks to the Hong Kong Convention 2009 coming into force,

While on the other hand, the BBNJ has a great role to the contribution of 'Blue Economy' to the countries and coastal communities of the world at large. The Thermal Dome in the Eastern Tropical Pacific Ocean and Sargasso Sea in the North Atlantic Ocean are two unique initiatives to serve as pilot cases to advance conservation in the High Seas and to test and promote the concept of hybrid governance, i.e. modes of governance that combine a regional approach and a global approach on the High Seas.

Both the new two regulations promote the 17 Sustainable Development Goals of the UN in letter and spirit.

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BIOGRAPHY

Capt. John Prasad Menezes is a Marine Consultant, Expert Witness and Maritime Arbitrator besides having sailed on different Ships in various ascending capacities from Cadet to Master.

In July 2024, he qualified as a Certified Auditor to conduct IHM Verification, Administration Authorizations and issuance of Certificates for Surveys on Vessels for a leading Flag State Administration in accordance with the Hong Kong Convention 2009 and the European Union Ship Recycling Regulations.

Capt. Menezes presently is Member of the Education and Training Committee of the Institute of Chartered Shipbrokers International.
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