

**INDIAN LAW ON CONTROL OF VESSEL
SOURCED POLLUTION IN MARITIME PORTS**

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Declaration

I do hereby declare that the thesis entitled “**Indian Law on Control of Vessel Sourced Pollution in Maritime Ports**” for the award of the degree of Doctor of Philosophy is the record of the original research work carried out by me under the guidance and supervision of Dr. A. M. Varkey, Retired Professor, School of Legal Studies, Cochin University of Science and Technology. I further declare that this work has not previously formed the basis for the award of any degree, diploma, associate-ship, fellowship or any other title or recognition.

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This is to certify that the thesis entitled “**Indian Law on Control of Vessel Sourced Pollution in Maritime Ports**” submitted by **Sony Vijayan** for the award of the degree of Doctor of Philosophy is to the best of my knowledge, a bonafide record of research work carried out by her as part-time research scholar, School of Legal Studies, Cochin University of Science and Technology under my guidance and supervision. This thesis or any part thereof has not been submitted elsewhere for any degree.

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This is to certify that the important research findings included in the thesis, “**Indian Law on Control of Vessel Sourced Pollution in Maritime Ports**” has been presented in a research seminar held at the School of Legal Studies, Cochin University of Science and Technology on 9th January 2014.

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This is to certify that all the relevant corrections and modifications suggested by the audience during the pre-synopsis seminar and recommended by the Doctoral Committee has been incorporated in the thesis entitled “**Indian Law on Control of Vessel Sourced Pollution in Maritime Ports**” submitted by Sony Vijayan for the award of the degree of Doctor of Philosophy.

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Preface

Maritime ports are inevitable for India's economic development. The very existence and sustainable development of ports depend on clean port environment. There is a notion that shipping is an over regulated industry. But in India, it is being operated under sub- standard conditions, raising crucial issues of environmental pollution in the country's ports. The negative impacts of vessel sourced pollution on the eco-fragile coastal peninsula can be detrimental to the living conditions, health and interests of the coastal population. It can disturb marine life and imbalance the aquatic ecosystem. The present study analyses control of vessel sourced pollution in Indian ports from an economic and ecological perspective. The study investigates legal reasons behind the weak control, regulation and monitoring over vessel sourced pollution in Indian ports. The loopholes in the legal system are identified and suggestion made to implement stronger enforcement. Unless, vessel operations are properly regulated in ports, the trade and economic prospects of India will be jeopardized.

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List of Abbreviations

| | | |
|---------------|---|---|
| AIS | - | Automatic Ship Identification System |
| BWE | - | Ballast Water Exchange |
| BWM | - | Ballast Water Management |
| CAS | - | Continuous Assessment Scheme |
| CBT | - | Clean Ballast Tanks |
| CDEM | - | Construction, Design, Equipment and Manning |
| COW | - | Crude Oil Washing |
| CR | - | Cargo Residues |
| CSR | - | Continuous Synopsis Record |
| D.G. Shipping | - | Director General of Shipping |
| DOC | - | ISM Compliance Certificate |
| dwt | - | dead weight tonnage |
| ECP | - | Environmental compliance plan |
| EEZ | - | Exclusive Economic Zone |
| ESM | - | Environment Sound Management Plan |
| FSI | - | Flag State Implementation |
| GESAMP | - | Joint Group of Experts on the Scientific Aspects of Marine Pollution |
| GMP | - | Garbage Management Plan |
| GRB | - | Garbage Record Book |
| grt/GRT | - | Gross tonnes |
| HNS | - | Hazardous Noxious Substances |
| ICG | - | Indian Coast Guard |
| ILO | - | International Labour Organization |
| IMCO | - | Inter-Governmental Maritime Consultative Organization |

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| IMO | - | International Maritime Organization |
| IMOU | - | Indian Ocean Memorandum of Understanding on Port State Control |
| INDSAR | - | Indian Ship Reporting System |
| INSPIRES | - | Indian Ship Position and Reporting System |
| INTERTANKO | - | International Association of Independent Tanker Owners |
| IOPP | - | International Oil Pollution Prevention Certificate |
| ISPP | - | International Sewage Pollution Prevention Certificate |
| ISRR | - | Indian Search and Rescue Region |
| ISRT | - | International Ship Recycling Trust Fund |
| ITLOS | - | International Tribunal for the Law of the Sea |
| LOT | - | Load on Top |
| MEPC | - | Marine Environment Protection Committee |
| MMD | - | Mercantile Marine Department |
| MoEF | - | Ministry of Environment and Forests |
| MoST | - | Ministry of Surface Transport |
| MRCC | - | Maritime Rescue Co-Ordination Centre |
| nm | - | Nautical miles |
| NOS-DCP | - | National Oil Spill Disaster Contingency Plan |
| OECD | - | Organization for Economic Co-operation and Development |
| ORB | - | Oil Record Book |
| P&I | - | Protection and Indemnity |
| PIC | - | Prior Informed Consent Process |
| PRF | - | Port Reception Facility |
| PSC | - | Port State Control |
| PSCOs | - | Port State Control Officers |

| | | |
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| PSPs | - | Port Service Providers |
| SACEP | - | South Asia Co-operative Environment Programme |
| SBT | - | Segregated Ballast Tanks |
| SGW | - | Ship Generated Wastes |
| SIRE | - | Ship Inspection Report Program |
| SMC | - | Ship Management Certificate |
| SMP | - | Sewage Management Plan |
| SMS | - | Ship Management System |
| SOEP | - | Shipboard Oil Pollution Emergency Plan |
| SRO | - | Self-regulatory Organization |
| SSRP | - | Ship Specific Recycling Plan |
| TSS | - | Traffic Separation Schemes |
| U.N.T.S | - | United Nations Treaty Series |
| UNCTAD | - | United Nations Conference on Trade and Development |
| UNEP | - | United Nations Environment Programme |
| USCG | - | United States Coast Guard |
| VDR | - | Voyage Data Recorder |
| VLCCs | - | Very Large Crude Carriers |
| VTS | - | Vessel Traffic System |
| WHO | - | World Health Organization |
| WMP | - | Waste Management Plan |
| WTO | - | World Trade Organization |

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INTRODUCTION

India has a great maritime history. Maritime trade stimulated the South Indian reign and urban development even in the tenth to twelfth centuries of A.D¹. Historical evidences shows that trade had flourished through the South Indian sea ports during the kingships of Cholas and Pallavas with China and Egypt². The period when the medieval Europe had recovered from its 'dark age', also witnessed the economic expansion of Asian countries through sea trade³. Ports played a prominent role in this economic development and continue to play so.

In Kautilya's Arthashastra, there are references about '*pattana*' meaning port, "a place officially designated as a centre for the exchange of goods which arrived by boat or by caravan"⁴. Kautilya also mentions about the "Commissioner of Ports", whose duty was to set regulations for the port town, and the "Director of Trade", who was his subordinate⁵. These historical references clearly show how significant were ports for the economic development of the country since time immemorial and how well organized were the port administration and the control systems.

An Overview of the Port Sector in India

Today, India is a major maritime country with a peninsular coastal line of 7517 Kilometers with over 13 major and 176 minor ports⁶. Many of these

¹ Clarence Maloney, "The Beginnings of Civilization in South India", 29 *Journal of Asian Studies* 3 (1970), pp. 603-616

² Carlo M. Cipolla, *The Fontana Economic History of Europe: The Middle Ages*, Fontana Books, New York (1972), p. 39

³ *Id*

⁴ Kautilya, *The Arthashastra*, Penguin Classics, India (1992), 2.1.19

⁵ *Id.*, 2.28.7

⁶ Ministry of Shipping, Government of India, Maritime Agenda 2010-20, dated January 2011

ports are at geostrategic locations either on the world's busiest shipping routes or closer to it. India is also one among the largest crude oil importers in the world. Over 90% by volume and 70% by value of India's international trade happens by sea⁷. The major ports are directly administered by the Central government under the constitutional mandate⁸. Non-major ports are administered by state governments and union territory administrations⁹.

The Economic, Ecological and Strategic Sensitivity of Ports

Ports are the gateways to international trade and engines to the country's economic development. "A port is a geographical area where ships are brought alongside land to load and discharge cargo- usually a sheltered deep-water area such as a bay or river mouth"¹⁰. Ports are generally administered by the port authority, which may be public bodies, government organizations or private organizations. The main purpose of a port is to provide safe berthing location for ships. A good port has the versatility in handling different types of cargo and it also provides for storage facilities. In addition to its role in movement of goods, ports and associated waterways facilitates commercial activities like fishing, recreation, ferry services and cruise ship industry and generates job opportunities for huge population¹¹. Furthermore, ports are places where various industrial operations are performed, either by port authorities, stevedores or industries located within the port domain. Hence, ports are economically sensitive areas.

Maritime port is ecologically sensitive because it is at an interface between the land and the sea¹². Hence, any form of pollution in the port area will certainly have negative impacts on its sensitive ecosystem. Ports have rich

⁷ *Ibid*

⁸ The Indian Constitution, Sch. VII, the Union List

⁹ *Id.*, the Concurrent List

¹⁰ Martin Stopford, *Maritime Economics*, Routledge, New York (2009)

¹¹ Jeremy Firestone, James Corbett, "Maritime Transportation: A Third Way for Port and Environmental Security", *9Widener Law Symposium Journal* 419 (2003), p.423

¹² *Ibid*

habitats that include seabed, estuarine waters, mud flats and wetlands, which are strategic components of natural environment and home for rare marine flora and fauna. Ports are also strategically important places as it is home to the naval defence forces. Major industries like the ship building and recycling yards are operating in the port adjoined waters.

Hence, maritime ports are indispensable for a country's economic development and its people's well-being. Ports need to be conserved properly.

Sustainable Development of Maritime Ports

In order to compete with their global counterparts, all ports in India are undergoing massive expansion and development programmes through capacity building and technology infusion. Increased trade due to extensive expansion programs not only increases vessel traffic and generate revenue, but also results in drastic pollution effects in Indian ports.

Today, in any country, it is important that the ports provide clean, efficient and competitive services. Otherwise, ship owners would prefer other trade hubs, which are more efficient, fast and economic. In India, where shipping is a major industry, the poor performance of maritime ports could result in deterioration of national revenue and the standard of living of the people. Thus, ports have a national responsibility, to do the best they can for their customers, and keep on doing better. The dynamic shipping sector requires cost effective ports whereas the very existence of port itself depends upon its clean environment. The economy of a country like India, which is an emerging maritime country will be in jeopardy if, proper care is not exercised for port conservation. "Trade and environment are two facets of the same coin; both have to compliment mutually"¹³.

Therefore, the maritime policy of India aims for sustainable development of ports. The Maritime agenda aims for 'green ports' by the year 2020¹⁴. It is also

¹³ Edith Brown Weiss, John Howard Jackson, Nathalie Bernasconi-Osterwalder, *Reconciling Environment and Trade*, Transnational Publishers, New York (2001)

¹⁴ *Supra* n.6, at p. 443

expected to establish emission control areas in specific coastal waters¹⁵. Considering the sensitive coastal peninsula that India is having, the agenda proposes to create Particularly Sensitive Areas¹⁶ under the Law of the sea regime so that complete prohibition of ship sourced waste discharges can be prohibited in Indian territorial sea¹⁷. It proposes for better ballast water treatment and 'port biological baseline survey and risk assessment' for all major ports¹⁸. In order to facilitate an effective marine disaster and oil pollution response system, the policy sets for the adequacy for tugs and connected infrastructural facilities for towing and de-canting of bunker oil from ships in distress, ready availability of salvors, non-conventional sources of energy for light houses, advanced navigational aids and promotes for 'green ship' technology for ship building¹⁹.

Vessel Sourced Pollution in Maritime Ports

Vessel sourced pollution is a major source of pollution in maritime ports.

In the post- world war era, crude oil emerged as the primary source of energy and the prime commodity for maritime transport. There was a substantial rise in the maritime traffic and casualties. As a result, the American, French and British coasts were largely affected by tanker casualties such as the *Torrey Canyon*, *Exxon Valdez*, *Amoco Cadiz*, *Prestige* and *Erika*. There were public uproars in these countries against the loopholes in the existing regime of flag state control. Consequently, these maritime countries responded rigorously by enforcing stringent legislation over foreign vessels in ports. The traditional notions of free navigation eroded in favour of punctilious coastal regulations on vessel movements. Thus, port state jurisdiction became more scrupulous in developed countries like North America, Canada, the United Kingdom and Australia. As a natural consequence, substandard shipping operations shifted to

¹⁵ *Id*

¹⁶ Herein after to be referred to as the PSSA

¹⁷ *Id*

¹⁸ *Id*

¹⁹ *Id*

developing countries like India where the environmental regulations are less stringent and admiralty law is least developed.

The ever demanding revolutionary transformations in the needs of the shipping industry have promoted advancements in naval architecture and ship building technology. This resulted in vast diversity in marine fleet involved in the sea transport. It is not possible to predict with utmost precision the potential pollution risk involved with ultra- modern maritime transport involving super tankers like the Very Large Crude Carriers and Ultra Large Crude Carriers that could carry voluminous cargoes in lesser time. There has been no consensus among nations on how to respond to the newer versions of pollution caused by vessels such as biological, nuclear, chemical and air pollutions. The devastations of marine pollution are felt largely on the coastal areas. Hence, the environmental consciousness of littoral states has intensified in the past few decades. Experiences prove that environmental degradation can be devastating in under developed and developing economies where the risk prevention and management is poor and resources are limited.

Maritime trade is intensively regulated at the international level. Therefore, the number of tanker casualties and major oil spills are deteriorating since 1970's. Naturally, a question on the relevance of more stringent port state control is raised. Dr. OyaOzcayir says, "In an ideal world there is no need for the port state control but when the regulatory regime falls below the required standards, port state control gains prominence"²⁰. Hence, the International Maritime Organization²¹ imposes more obligations on port states to establish clean ports under its technical conventions.

There have been commendable efforts to promote quality shipping under the aegis of the IMO and other international institutions. India is a party to all major safety and pollution prevention conventions of the IMO. In India, the international prescriptions for safer and pollution free shipping is implemented by

²⁰ Dr. Z. Oya Ozcayir, *Port State Control*, Informa Professional, London (2001), p.93, para.4.1

²¹ Herein after to be referred to as the IMO

notices issued by the Director General of Shipping from time to time without any strong legal back up as it exist in other major maritime countries.

Thus, substandard shipping operations are being shifted to India from the west, raising crucial issues of pollution and safety of the country's ports. Unhindered access to sea ports is indispensable for economic progress. Equally important is to establish a balance between trade and environment. In the absence of proper access control and monitoring quality of ships, the topography of Indian ports and its navigable waters may not be environmentally secure in future. This may in turn produce negative impacts on the trade prospects of the country.

Relevance of the Study

At the international level, there are many studies on crucial issues relating to vessel sourced pollution, especially on jurisdiction issues. In India, no systematic study had been conducted on the legal standards for controlling vessel sourced pollution in ports. In spite of the plethora of legislation, India is not able to establish the IMO vision of clean and safe ports. The reason for this is an unexplored area. Hence, the present study examines the legal issues involved in control of vessel sourced pollution in Indian ports.

Objective of the Study

The major objectives of the study include in identifying the sources of vessel sourced pollution in maritime ports in India. It is also analyzed whether the existing laws, regulations and bye laws are adequate to control vessel sourced pollution in ports. Yet another focus of this study is to find out whether the existing laws are in conformity with the international law controlling vessel sourced pollution. Thereafter it is analyzed whether higher standards of control are required to prevent vessel sourced pollution in ports. The study examines whether the higher standards of control if executed are legitimate and whether the existing laws of control facilitate international trade. It is also an aim to find out how good is the Indian law in balancing the conflicting interests of coastal states and maritime states. The study examines the deficiencies in the enforcement regime. It is also aimed to suggest modifications and improvements in the existing laws controlling vessel sourced pollution in ports.

Research Problem

The present study tries to analyze whether the Indian law is able to establish the IMO vision of clean ports. It attempts to suggest improvements required in the control regime to facilitate international trade.

In order to carry out this research work in a systematic manner and to answer the research problem, the researcher has further formulated various sub-questions.

Hypothesis

Indian legislation lacks behind the IMO vision of clean ports on several aspects. This hypothesis is ought to be tested in this work.

Research Methodology

This is a doctrinal study based on primary and secondary sources of legal data. The primary sources are Indian legislation, rules and bye-laws, case laws of Indian, American, British and international courts, international instruments such as the IMO Conventions, ILO Conventions, the EU Directives, soft laws like the Marine Environmental Protection Committee resolutions and guidelines, guidelines of international organizations such as the UNEP, *Comite Maritime International*, Green peace initiatives and the Agenda 21 and various commission reports. The secondary sources are books, journal articles, conference papers, annual port reports, web- articles, news- paper and magazine reports. The theories and opinions of many legal scholars are also examined to find out whether they are supporting the existing laws.

Scheme of the Study

The study is divided into ten chapters. The first chapter is the Introduction which provides a sketch of the research area. It gives an overview of Indian port sector, the significance and scope of the study. This chapter also states the research problem and methodology adopted for conducting the study. The second chapter is on the historical review of laws on control of vessel sourced pollution in ports. It highlights the existing studies on the topic and the Indian and international legal framework to control vessel sourced pollution.

Chapter three discusses the role of denial of access as a method to prevent port pollution. It analyzes whether there is any right to deny access for physically unseaworthy and substandard ships. It also focuses on the criteria set by Indian law in denying access. It compares the Indian practice of denying access with the international regime. It also analyses the limitations in the Indian law in denying access to ships and the judicial approaches on denying access. This chapter aims to analyze the port state control regime in India. It studies on the port state jurisdiction of India under the Law of the Sea Convention regime. It suggests modifications to strengthen India's port state control system and port state jurisdiction.

The fourth chapter identifies the sources of operational oil pollution in ports. The international law on the topic is analyzed. The deficiencies in the International Convention for the Prevention of Pollution from Ships, 1973 and its Protocols in 1977 and 1978²² with respect to control of operational oil pollution are analyzed. The provisions for controlling vessel sourced operational oil pollution under the Indian law are examined. The chapter analyzes the Indian standards of control in comparison with the MARPOL regime. The deficiencies in Indian law are identified and suggestions made.

Legal control of ballast water pollution is analyzed in the fifth chapter. It examines whether ballast water pollution is a form of ship sourced operational pollution on the basis of international law. It analyses the Indian position on control of ballast water pollution and identifies the deficiencies in the control system. The chapter examines the bio security aspects of ballast pollution and the need for an integrated approach to control it. It recommends modifications in the existing system of control.

The next chapter examines the concept of sewage and garbage pollution by ships and the international law on it. The chapter identifies the provisions

²² Herein after to be referred to as the MARPOL 73/78, adopted in 1973, entry into force on 2nd October 1983, available at [http://www.imo.org/About/Conventions/List of Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships- \(MARPOL\).aspx](http://www.imo.org/About/Conventions/List%20of%20Conventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx), last accessed in December 2013

for port reception facilities in Indian law and the practical difficulties in implementing it. It generally examines the waste disposal and environmental compliance system as to sewage and garbage disposal from ships in Indian ports. The chapter discusses whether control should also be exercised under the Environmental Protection Act, 1986, the Bio-Diversity Act, 2002 and the fisheries conservation laws. It analyzes the merits of control under the shipping law. The Indian standards of control are analyzed in comparison to the international regime and modifications suggested.

Under chapter seven, the control measures to prevent accidental pollution are examined. The provisions under the safety conventions and self-regulatory system to ensure safety in shipping operations are analyzed. The importance of port state control in tracking unseaworthy ships and the Indian practice on port state control relating to tracking of substandard vessels is examined. It examines how far the Indian law is in conformity with the technical conventions of the International Maritime Organization on safety and pollution control. The deficiencies in the existing system are identified. Suggestions are made for improving the monitoring and safety control of ships in ports.

The eighth chapter focuses on Indian standards of contingency planning, mandatory insurance, and the establishment oil pollution compensation fund. It identifies the major deficiencies in the liability regime. The need to implement the 'potential polluter pay' principle is discussed. It also examines whether criminal prosecution of seafarers is needed in India and whether it is effective in preventing accidental pollution. The draconian law of criminalizing seafarers on grounds of public welfare is critically examined. Major deficiencies in the Merchant Shipping Act, 1958 on defining pollution damage and limitations on fixing civil liability are critically examined. Modifications and suggestions are made in order to improve adjudication of claims on pollution damages.

Chapter nine is on control of ship recycling. The U.N network on ship recycling is examined in detail. Indian laws are also examined. Multiplicity of Indian laws on the topic has weakened the enforcement regime by conferring jurisdiction on a handful of bureaucratic agencies. The need to implement the

Basel Convention requirements to prevent illegal trafficking of vessels and beaching on Indian ports are suggested. Conflicting judicial approaches allowing ship dismantling at Alang are examined in detail. Deficiencies in the existing legal system are identified and modifications suggested.

Chapter ten contains the conclusions and Suggestions of the study. In India vessel sourced pollution is a major source of port pollution. The control exercised under various environmental laws does not deter pollution of Indian Ports. Shipping could be effectively regulated only under a consolidated and strong admiralty law. There are many limitations for exercising control under the existing system. The study suggests practical solutions to overcome this. India's Maritime Policy aims at sustainable development of the shipping industry. But the Indian admiralty law is not in pace with the dynamism in shipping operations. The effectiveness of the control system depends on Port state control. The study examines the deficiencies in this system and suggests methods to improve the same. The port authority should be given sufficient authority, power and resources to control and monitor the vessels calling at Indian Waters. This can increase the effectiveness of the law. If the entry of inferior quality ships is not regulated properly, it may question the very existence of Indian ports; the trade and economic prospects of the country.

For the purpose of this study, emphasis is given to international legal materials on the topic. The researcher has examined how far these international norms had been implemented in India. Even though many of these international materials are not binding on the Indian government and act as a recommendation, it is always better to conform to such rules to bring in uniformity of this practice in this area. Wherever there are shortcomings, the reasons for such infirmities are identified and remedial measures are suggested. The focus of this work is to identify the defects in Indian law in the light of international and comparative practices.

LEGAL CONTROL OF VESSEL SOURCED POLLUTION: A HISTORICAL OVERVIEW

Law on control of vessel sourced pollution is of recent origin¹. “Although there has been a localised concern with the problem of pollution since at least the 16th century, the recognition of marine pollution as a problem of global dimension is of relatively recent origin and is only now beginning to find legal expression”².

The Evolution of Laws on Safety and Pollution Controlling Ports during Ancient and Middle Ages³

The ancient maritime history adopted preventive policing as the industry lacked technical sophistication to cure the damages caused by maritime accidents⁴. For example, until the Roman Empire, the mariners knew nothing about how to confront the bad weather. Hence, ships stayed in ports

¹ Sources on history and development of laws on vessel sourced pollution: Alan Khee Jin-Tan, *Vessel-Source Marine Pollution*, Cambridge University Press, Cambridge (2006); S.Z. Pritchard, *Oil Pollution Control*, Croom Helm, Beckenham, Kent, (1987). Also See the IMO website on the History of Marpol at [http://www.imo.org/KnowledgeCentre/References And Archives/History of MARPOL/Pages/default.aspx](http://www.imo.org/KnowledgeCentre/ReferencesAndArchives/HistoryofMARPOL/Pages/default.aspx), last visited in December 2013

² Soni Ramanlal, *Control of Marine Pollution in International Law*, Juta & Co, Ltd., South Africa (1985), p.119

³ See, the history and evolution of Laws on safety and marine pollution control given in the IMO website, [http://www.imo.org/KnowledgeCentre/ReferencesAndArchives/ History of Safety at Sea/Pages/default.aspx](http://www.imo.org/KnowledgeCentre/ReferencesAndArchives/HistoryofSafetyatSea/Pages/default.aspx), last accessed in December 2013

⁴ Philippe Boisson, *Safety at Sea: Policies, Regulations and International Law*, Bureau Veritas, Paris (1999)

during winter season. Yet another method adopted to prevent accidents was to jettison cargo overboard to lighten the vessel.

During the middle ages, the Mediterranean maritime authorities strictly implemented the provisions of the *Lex Rhodia* in order to combat illegal overloading of vessels. The same era also witnessed the introduction of inspections and penalties for safety violations in the port of Genoa⁵. In spite of all these measures, maritime wrecks were common in the Mediterranean Sea, which had influenced the Henseatic League to introduce severe criminal penalties on pilots⁶. The Sea Laws of Oleron also quote stringent criminal penalties on defaulting officials⁷. The Spanish Ordinance, 1563 and the Venetian laws, 1569 are examples of regulations ensuring seaworthiness of the vessels⁸. Northern maritime countries were the first to introduce ship survey system. The Low Countries Ordinance, 1549, the Recesses of Hanseatic League and the Genoese laws had provisions for double surveys of ships to ensure safety. The French Act, 1791 had innovative provisions obligating captains of the ships engaged in long voyages to complete survey before loading of the vessel.

Despite all these provisions, risk prevention laws were not much developed. Hence, legislations were enacted basically to provide compensation and to protect ship owner's interests. Subsequently, the concepts such as sharing of liability, principles of bottomry and involvement of insurance agents were established by means of proper laws.

The 19th Century Developments

The industrial revolution contributed to the advancement of technology in maritime transport. The most significant of all these were the introduction of steam

⁵ *Ibid*

⁶ *Ibid*

⁷ *Ibid*

⁸ *Ibid*

powered engines and ships built of steel hulls. Ships began to ply across oceans in huge numbers and sizes, embarking voluminous cargo. The accident rates increased. Many states considered surveys and other administrative scrutiny measures as obstacles for free trade. This led to development of private classification societies who could ensure safety without compromising the ship owner's interest.

During the mid-nineteenth century, maritime trade evolved as the most preferred mode for the transport of goods. The need for unification of rules and regulations on safety of navigation and competency of seafarers were largely felt during this era. This had led to state intervention in policing and monitoring of safety norms on board the vessels. During this age the French and the British system had contributed a lot to the public law provisions on safety and pollution control⁹.

The nineteenth century also saw the very first regulations on navigation. The British practice in this regard was based on the writings of W.D. Evans, who is regarded as the father of the present day navigational rules. These rules were very simple and accepted among maritime countries. France and Britain signed the first maritime agreement on navigational rules in 1848. During this period, many bilateral agreements were signed for preventing collisions at sea.

The 20th Century Developments

The growing concern for uniformity in national laws on safety at sea was felt during the twentieth century. At this time, every state had its own laws on control of ships in ports. The diverse provisions on loading requirements, surveys and certification of ships created much ambiguity. Also, the national permits on seaworthiness had no international validity. Finally, major maritime casualties prompted the states for greater unification of laws on safety and pollution control at the international level.

⁹ S.Z. Pritchard, *Oil Pollution Control*, Croom Helm, Beckenham, Kent (1987)

The 21st Century Developments

The last two or three decades have seen extra ordinary development of technology over the uses of oceans and its resources. The capacity building and technology advancements that had happened in all spheres of maritime activities have contributed to the vivid scale and sources of marine pollution¹⁰. Yet, the efforts to control vessel sourced pollution were meagre until 1960. “Before 1960, there was little concern with pollution of the sea”¹¹.

All major international conventions on safety and pollution control are the aftermath of tanker casualties. The sinking of the *Titanic* in 1912 paved the way for the adoption of the first Safety of Life at Sea Convention, 1914¹². The *Torrey Canyon* casualty had triggered the adoption of the Intervention Convention, 1969; the Civil Liability Convention, 1969; the Fund Convention 1971; the 1969 Amendments to OILPOL 54 and the MARPOL 1973. The *Amoco Cadiz* incident of 1978 led to the adoption of the 1982 Paris Memorandum of Understanding on Port State Control and major inclusions of provisions for the control of vessel sourced pollution in the third Law of the Sea Convention, 1982.

States responded to these disasters through international legislations, first in the form of bilateral treaties and regional agreements and then by means of international conferences kicking off intergovernmental organizations, setting universal rules of practice for safety at sea and prevention of vessel sourced pollution.

International Conventions to Control Pollution from Ships until OILPOL 54

The major international conventions covering pollution free shipping can be categorized as technical and operational conventions, those ensuring competency of seafarers, the law of the sea convention and conventions on

¹⁰ *Id.*, at p. 37

¹¹ R.R.Churchill and A.V.Lowe, *The Law of the Sea*, Manchester University Press, U.K. (1999), p. 328

¹² Herein after to be referred to as the SOLAS. This convention even though adopted in 1914, entered into force only in 1929 due to the First World War

international organizations concerned with merchant shipping¹³. Technical and operational conventions like SOLAS 74, MARPOL 73/78, LOADLINES 66, COLREG 72 and many others deal with safety of navigation, pollution free shipping operations, tonnage measurements, traffic separation schemes, unification of private maritime laws etc. The conventions of International Labour Organization ensure adequate and efficient manning and crew competency. The third Law of the Sea Convention, 1969 is an umbrella convention dealing with jurisdiction and competency of states over different maritime zones. The charter of the IMO and other international organizations prescribe for implementation of its conventions at the domestic level, proper organizational scrutiny and supervision over shipping. The conventions on unification of private maritime laws provide for liability and compensation regime, generally on collision, salvage at sea and owner's liability.

Perhaps, the earliest attempts to control vessel sourced pollution was by means of implementing controlled discharges. The political pressures in the United States and the United Kingdom had led to the control of oil discharges beyond the territorial three mile limits. It was the need of the hour for these countries to establish uniform state practices upon this for the advantage of their own merchant vessels. Hence, a conference was convened in 1926 in Washington D.C. seeking universal consensus upon the controlled discharges of oil wastes from ships within specified zones¹⁴. In this conference, the pollution control zones up to 50 nautical miles from shore was adopted and ship discharges beyond 500 parts per million¹⁵, was prohibited. Even though the draft convention proposed by this conference was never adopted, it became the corner stones for ppm standards in later conventions.

¹³ Sathish Chandra, "The U.N. Chronology of the " Law of the sea", 20 *Civil and Military Journal* 159 (1984), at p.159

¹⁴ Alan Khee Jin-Tan, *Supra* n. 1,p.107

¹⁵ Herein after to be referred to as the ppm

The draft convention could not be adopted for several reasons. The flag state jurisdiction was retained but maritime states had fears about coastal state interference over vessels in high seas. Flag states lacked incentives to control shipping in the foreign waters and the coastal states never had technical sophistication to enforce control over discharges beyond the three mile traditional limits. Practically, enforcement up to 50 nm was deemed to be an illusion. The zonal prohibition was effective only for keeping the problem of pollution beyond the territorial limits and in no way was helpful in minimizing or eliminating it totally.

Considering these shortcomings, the United States had proposed for ship board retentions and oil waste separators. At the same time a proposal for port reception facilities was rejected because of the huge costs involved in setting up the facility. The draft convention was not adopted. The years followed were that of the 'Great depression' and oil pollution became the least concern for all countries.

The next attempt to control vessel sourced pollution started at the auspices of the League of Nations in 1930. Proposal came from the United Kingdom for rejection of zonal approach and adoption of total prohibition approach for control of oil discharges. The 50 nm prohibition zones and the flag state supremacy over enforcement was retained. The French proposal for extended coastal state jurisdiction within the prohibition zone was rejected. The British proposal for concurrent jurisdiction within the prohibition zone was not adopted. In place of total prohibition, the British and League delegates had stressed for port reception facilities but it got strong opposition from the United States. Finally, the port reception facility found a recommendatory status in the draft convention of that conference.

The Second World War followed and there was a growing demand for petroleum and energy resources after that. In 1948, at the maritime conference in Geneva under the aegis of the United Nations, the Inter-Governmental

Maritime Consultative Organization¹⁶ was established. In the United Kingdom, there were rising concerns among environmentalists about tanker pollutions and ship owners as to unilateral enforcement by states. The Faulkner Committee was appointed to study the uniform regulatory actions against oil pollution. The Faulkner committee recommended for mandatory port reception facilities and prohibitory approach as against discharge of oil wastes in the prohibited zones. The committee also proposed for slop tanks and oil water separators on tankers. The recommendations of the Faulkner committee formed the basis of the first ever convention for oil pollution control, the OILPOL 54¹⁷ at the London Conference in 1954.

The OILPOL 54

The OILPOL 54 established a 50nm prohibition zone where the discharge by oil tankers above 100 ppm was illegal¹⁸. Under the OILPOL scheme, the zonal prohibitions were applicable only to tankers. The non-tankers were free to discharge oily wastes anywhere if they were not given reception facility. Yet, the states were obligated to provide reception facilities for non-tankers.

Enforcement Regime under the OILPOL 54

The flag state primacy was retained under the OILPOL54. For violations, the flag states had to conduct investigations and proceed against the defaulting vessels¹⁹. They were to report to the IMCO regarding the enforcement steps taken against violators.

The coastal state jurisdiction did not extend beyond the 3 mile territorial limit. The only power given to the coastal state was to check the

¹⁶ Herein after to be called as the IMCO

¹⁷ The International Convention for the Prevention of the Sea by Oil, 1954, here in after to be referred to as the OILPOL 54

¹⁸ *Id.*, art. VIII

¹⁹ *Id.*, art.X

authenticity of the Oil Record Books²⁰ in ports²¹. The coastal states could take any action within their territorial limits to any matter to which the convention extended²². The coastal states never had technology sophistication to check the ppm limits or ORB specifications in those days. Since, the coastal states did not have jurisdictional powers beyond the territorial waters; the enforcement against defaulting vessels remained basically on the commitment shown by flag states. The convention's compliance was basically self-regulatory and enforcement, full of deficiencies.

The First and Second Law of the Sea Conventions

The first and second Law of the Sea Conferences was convened in 1958 and 1960 respectively. Marine pollution was not in the agenda of these conferences except under the High Seas Convention where there was a vague reference as to 'the states obligation to draw up regulations to prevent the pollution of sea by oil discharges from ships'²³. The jurisdictional competence of the states remained almost the same under all the four conventions that were adopted by the 1958 conference. The coastal states were given limited jurisdictional powers for sanitation purposes within the contiguous zone that extended up to 12 nm from the shore and it implied marine pollution control²⁴.

The 1962 Amendment to OILPOL 54

Meanwhile in 1962, a conference was held to amend the OILPOL54. The 100 ppm discharge rate was retained. Port reception facility remained recommendatory. Total prohibition zone was established. These requirements

²⁰ Hereinafter to be referred to as the ORB

²¹ *Id.*, art. IX

²² *Id.*, art. XI

²³ The Convention on the High Seas, 1962, art.24

²⁴ Y. Dinstein, "Oil Pollution by Ships and Freedom of the High Seas", 3 *Journal of Maritime Law and Commerce* 363

were made mandatory for tankers and all new ships above 20000 Gross Tons. No major changes were made to the enforcement system.

The Torrey Canyon

Following the Suez Canal crisis, the new sea route around the Cape of Good Hope was found to be economical only with the commissioning of Very Large Crude Containers and Ultra Large Crude Containers. Japan began to make these giant ships in huge numbers. As the potential risk for massive spills continued with the commission of these vessels, on 18th March 1967, the *Torrey Canyon* ran aground Scilly Isles spilling almost 120000 tons of crude oil devastating the British coast. This incident triggered the movement for stringent control over vessel sourced pollution.

The OILPOL Amendment in 1969

The year 1969 saw heated debates on the deficiencies in oil pollution prevention systems and compensation following accidents. The IMO began to amend OILPOL 54/62. New ship board design and the Load on Top²⁵ system were introduced. The total amount of oil discharged could not exceed 1/15000 litre per mile of the tanker capacity. The complete prohibition zone up to 50nm was retained. Within the zone, tankers were allowed to discharge only clean ballast. Thus, the 1969 amendment to OILPOL 54/62 made changes as regard to discharge standards and size of oil tankers but not to compliance and enforcement systems.

The Preparatory Works on MARPOL 1973

By the year 1970, there were intense political pressures in western maritime countries to increase stringent regulations on oil transport. In 1972, the United Nations Conference on Environment was convened in Sweden, which adopted the Stockholm Declaration on Human Environment²⁶. It also

²⁵ Herein after to be referred to as the LOT

²⁶ 11 I.L.M 1416 (1972); L.B. Sohn, "The Stockholm Declaration on Human Environment", 14 *Harvard International Law Journal* 423 (1973)

gave birth to the United Nations Environment Programme²⁷. In the Stockholm conference, the deficiencies of OILPOL 54 was debated, especially regarding its limited scope to oil pollution incidents²⁸.

The year 1970 also saw the birth of the United States Environmental Protection Agency, which under the Nixon administration started implementing unilaterally improved Load on Top systems for the existing tankers and the Segregated Ballast Tankers for new vessels for their entry into the U.S. ports²⁹.

Due to the United States pressure tactics, the extra ordinary session of the IMO Council was called to discuss action plan on technical and legal aspects of the *Torrey Canyon* and the newer and improved means for prevention of marine pollution by ships. The Assembly decided to convene an international conference in 1973 to prepare a convention on the control of marine pollution by ships.

International Convention for the Prevention of Pollution from Ships 1973

The international conference adopted the International Convention for the Prevention of Pollution from Ships 1973, popularly called as the MARPOL 73. The provisions of OILPOL 54 on operational pollution were incorporated into the Annex I of MARPOL 73. The convention also addressed other forms of ship sourced pollutions such as chemical and harmful substances carried in packaged form, sewage and garbage under Annexures II, III, IV and V respectively. It also has two protocols on ‘*Reports on Incidents Involving Harmful Substances and Arbitration*’. Annexes I and II were compulsory and states could be the parties to the convention only if they ratified these two annexures. Annex III, IV and V were optional.

²⁷ Herein after to be referred to as the UNEP

²⁸ A. Mendelsohn, “Ocean Pollution and the 1972 United Nations Conference on the Environment”, 3 *Journal of Maritime Law and Commerce* 385 (1972)

²⁹ S.Z. Pritchard, “Load on Top – From Sublime to the Absurd”, 9 *Journal of Maritime Law and Commerce* 185 (1978)

Many states could not ratify the convention because of the technical complexities in adopting Annex II. Hence, the IMO convened a conference on Tanker Safety and Pollution Prevention, in February 1978. The conference made sweeping changes in the requirements as to tanker design and construction, incorporating it into the Protocol of 1978 with respect to the SOLAS 74 and the Protocol of 1978 of the MARPOL 73. As a result state parties could ratify if they incorporated Annex I and need to adopt Annex II within three years as and when the Protocol of 1978 entered into force. The 1978 Protocol of MARPOL 73 absorbed the parent convention. Thus, the combined International Convention for the Prevention of Pollution from Ships 1973 as modified by the Protocol of 1978 relating there to, the MARPOL 73/78 came into force on 2nd October 1983.

The violations of MARPOL 73/78 would invite enforcement measures by the flag states. The port states are to check the validity of certificates and requirements under MARPOL in ports and if necessary to detain the vessel unless the deficiencies are addressed and solved.

The convention has specification on requesting technical assistance from the U.N. bodies and organizations working under it such as the UNEP for training, supply of equipment, research and methods to combat pollution. The amendments to the convention are effected by means of tacit acceptance procedure.

The Annex I to MAPROL entered into force on 22nd October 1983 and the revised Annex on 1st January 2007. The Annex gives discharge specifications for tankers. Accordingly, "...the total quantity of oil which a tanker may discharge in any ballast voyage whilst under way must not exceed 1/15,000 of the total cargo carrying capacity of the vessel; the rate at which oil may be discharged must not exceed 60 litres per mile travelled by the ship; and no discharge of any oil whatsoever must be made from the cargo spaces of a tanker within 50 miles of the nearest land". The Annex makes it mandatory to keep and maintain an Oil Record Book stating discharge specifications as to oil on a tank-to-tank basis. Complete

prohibition of oil discharges is specified at “special areas” and to retain oil so as to pump only into the Port Reception Facility³⁰ the ship should have on board equipments such as “oil-discharge monitoring and control system, oily-water separating equipment and a filtering system, slop tanks, sludge tanks, piping and pumping arrangements” when operating in these areas.

For the newly constructed tankers, the Annex specifies that they should have Segregated Ballast Tanks, Crude Oil Washing systems or dedicated Clean Ballast Tanks. The 1978 Protocol introduced strict survey and certification of vessels.

The Exxon Valdez and 1992 Amendments

The major amendment came in 1992, which made double hulls mandatory for all new tankers and the schedule for phasing out of existing single hull tankers. The double hull requirement was made mandatory following the *Exxon Valdez* incident in Alaska³¹. The United States tanker *Exxon Valdez* had grounded in Alaska spilling almost 37000 tons of oil causing massive devastation along the coastal lines of Prince William Sound. After this incident the United States passed the Oil Pollution Act, 1990³².

The Erika and 2001 Amendments

The Maltese flagged tanker sank in the Bay of Biscay off France in December 1999 and spilled over 20000 tons of heavy fuel oil. Following this incident, the European Commission and France demanded more stringent regulation of shipping. Some of the proposals under the Erika I package included, early phasing out of the single hulled tankers, greater control over classification societies and more stringent port state control. The Erika II package proposed for the European Maritime Safety Agency, greater safety in shipping and improved means of pollution control and advances compensation

³⁰Herein after to be referred to as the PRF

³¹ T.M. Alcock, “Ecology Tankers and Oil Pollution Act of 1990: A history of Efforts to Require Double Hulls on Oil Tankers”, 19 *Ecology Law Quarterly* 97 (1992)

³² 46 U.S.C. §3703a: Tank Vessel Construction Standards

and liability regime³³. As a result, the 2001 amendments to Annex I revised the provisions and advanced the phasing out schedule.

The Prestige and 2003 Amendments

In November 2002, the Bahamese flagged tanker, the *Prestige* sank off the coast of Spain, spilling over 77000 tons of heavy fuel oil. In response to this incident, the European Commission demanded for accelerated phasing out movement of single hulls and made changes to the conditional assessment scheme for single hull tankers. A new regulation banned the carriage of heavy grade fuel oil in single hulled tankers. Some of the European countries went one step ahead by imposing unilateral ban in their EEZ also. The European Commission enacted the Directive that made intentional and accidental discharges of wastes from ships in European waters, a criminal offence. The European states lobbied the IMO and established 'Particularly Sensitive Sea Areas, PSSA' around their Atlantic coasts. In these areas 48 hours prior ship reporting for carriage of certain cargoes is mandatory.

Control over Other Sources of Ship Sourced Pollution under the MARPOL Regime

The Annex II entered into force on 6th April 1987. It is about control of pollution by noxious liquid substances carried in bulk, which are listed under the list appended to the convention. There is total prohibition of these discharges in the port areas.

The Annex III entered into force on 1st July 1992. Annex III has specifications on "standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances".

³³ Regulation EC 417(2002); See also M. Baldwin et al., "Recent Developments: A Review of Developments in Ocean and Coastal Law 1999-2000", 5 *Ocean and Coastal Law Journal* 367 (2000)

Accordingly, these matters are governed by the code introduced under the Annex namely, the International Maritime Dangerous Goods Code 1991³⁴, listing marine pollutants.

Annex IV is on control of pollution by sewage from ships and it entered into force on 27th September 2003 and the revision in 2004.

Annex V discusses on control of pollution by garbage from ships. It entered into force on 31st December 1988. It details on the types of garbage and its safe disposal at distances from shores. The most significant impact of this Annex is that it totally prohibited at all maritime zones the disposal of plastics.

Annex VI is on prevention of air pollution by ships. It entered into force on 19th May 2005. This annex “set limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibit deliberate emissions of ozone depleting substances”.

The Introduction of the Concept of Port State Jurisdiction

The law on control of vessel sourced pollution achieved a major milestone with the adoption of the third United Nations Conference on Law of the Sea, 1982³⁵. The negotiations during the conference witnessed the emergence of the new concept of port state jurisdiction³⁶. The right of a state to exercise jurisdiction over vessels entering the ports and to deny access is known as port state jurisdiction. The port state can deny access if the visiting vessel is not complying with the requirements on construction, design, manning and equipment in the ports³⁷. The port states are also empowered to conduct investigations and initiate detention and other enforcement measures

³⁴ Herein after to be referred to as the IMDG Code

³⁵ Here in after to be referred as UNCLOS III

³⁶ Tatjana Keselj, “Port State Jurisdiction in Respect of Pollution from Ships: The 1982 United Nations Convention on the Law of the Sea and the Memoranda of Understanding”, 30 *Ocean Development & International Law* 127 (1999)

³⁷ UNCLOS III, art. 211(3)

against vessels for violation of these standards, even if the incident happens on high seas, when the vessel is at its port³⁸.

The concept of port state jurisdiction was introduced by the United States in a proposal submitted to the Seabed Committee of the United Nations General Assembly³⁹. As MARPOL 73 could not have been implemented without giving more powers to port states, the concept of port state jurisdiction was incorporated into the provisions of UNCLOS III.

The proposal by the United States on port state jurisdiction had stringent enforcement provisions. It was a clear departure from the provisions of the Convention on High Seas 1958 and other international instruments that existed for the control of marine pollution. The proposal had provisions for punitive actions not only against discharge violations of MARPOL but also for breach of applicable international rules and standards for control of marine pollution. If the on board inspections were obstructed, port states could deny port entry. The seabed committee had proposed for enhanced investigative powers for the port states over vessels violating discharge standards and breach of generally accepted rules and regulations for the control of marine pollution irrespective of the place of occurrence. If these provisions had been accepted, it would have certainly enhanced the powers of port states. Instead, at all meetings of the Sea Bed Committee, it got strong objection from the maritime states. Yet, these provisions form the basis of how the parties have interpreted articles 211 (3) and 218 of the UNCLOS III, especially regarding the port state denial. For example, the United States has been unilaterally enforcing greater specifications on construction, design, equipment and manning standards for the entry of vessels into that country's ports. Initially, the Paris Memorandum

³⁸ *Id.*, art.218

³⁹ Draft Articles on the Protection of the Marine Environment and the Prevention of Marine Pollution, UN Doc. A/AC.138/SC.III/L.40 (1973)

of Understanding on Port State Control had similar provisions, and, so also the EC Directive of 19th June 1995⁴⁰.

During the negotiations of the Third United Nations Conference on the Law of the Sea several proposals came in to restrict unilateral provisions on port state control. For example, the Greek delegation proposed for mere investigative powers to check seaworthiness certificates for the port states. Nine western European countries had emphasized the need on notifying the flag states before taking any port state enforcement actions against vessels. They also proposed that the port state jurisdiction can be exercised only when the vessel is in port and upon the request of the concerned state party⁴¹. There was conflicting proposals on giving concurrent jurisdiction to port states as opposed to flag state supremacy. Meanwhile, a general consensus was reached on granting enforcement powers to port states in the declarations of the United Kingdom, New Zealand and India⁴².

The Port State Jurisdiction under the Third United Nations Conference on Law of the Sea, 1982

A foreign ship entering voluntarily into a port is under the temporary allegiance to the territorial sovereignty of the coastal state⁴³. By virtue of this sovereignty, the coastal state may prescribe and enforce rules by executive and adjudicative methods against the foreign ships, every member and any goods on board. The foreign ship is to comply with customs, health, safety, navigation and environmental laws of the port state because of the same

⁴⁰ Erik Jaap Molenaar, "Developments in Port State Jurisdiction", Law of the Sea Symposium London, 22-23 March 2005, available at www.biiicl.org/files/1388_molenaar_develop_in_psc_-_conf_version.doc, last visited in December 2013

⁴¹ UN Doc. A/CONF.62/C.3/L.4, in *Official Records, Third United Nations Conference on the Law of the Sea*, New York, 1975–1984, vol.3, p.248

⁴² *Id.*, vol.85, para 36

⁴³ Lagoni, "Internal Waters, Seagoing Vessels", 11 *EPIL*156(1989)

sovereignty principle. Generally, the provisions of the Law of the sea give wide discretion to the coastal state to decide on whether to exercise jurisdiction over foreign vessels in ports. The state practices suggest that coastal states exercise their jurisdiction only when the peace, good order or tranquility of the port is affected⁴⁴. There are several exceptions to this rule and the ship in distress is one such. Whether the ship is under *force majeure* or distress is to be decided on the narrow interpretation given under the international law⁴⁵. The international law requires that the ships in ports should be treated on the basis of non-discrimination⁴⁶. The UNCLOS III also incorporates the principle of non –discrimination.⁴⁷

Under the UNCLOS regime, “...states may establish particular requirements for the prevention, reduction, and control of pollution of the marine environment as a condition for the entry of foreign vessels into their ports or internal waters or for calls at their offshore terminals”⁴⁸. The provision is actually intended to create common state practices as to port entry requirement. Under this provision, port states are given powers only to enact national laws in conformity with the international rules and standards for the prevention of marine pollution.

The port states can conduct investigations against a vessel voluntarily entering into its port for violations of discharge standards happening beyond its territory⁴⁹. The port states can detain a vessel violating applicable international rules and standards, which is a threat to marine environment from sailing into

⁴⁴ Churchill and Lowe, *The Law of the Sea* (in nutshell), Honolulu (1983), at p.49

⁴⁵ *Ibid*

⁴⁶ O’Connell and Shearer, *The International Law of the Sea*, Oxford, Clarendon(1984)

⁴⁷ UNCLOS III, art. 227

⁴⁸ *Id.*, art. 211(3)

⁴⁹ *Id.*, art.218

the next port until the deficiencies are cured off⁵⁰. By virtue of the territoriality principles, port states can exercise this jurisdiction beyond the limits set by UNCLOS III, yet it is intended that states shall not abuse this power and the port state denial may be considered as a trade related environmental measure.

It was rightly observed by Smith: "...the enforcement authority by coastal states with respect to vessels in port has long been recognized as one of the keys to the development of an effective international regime to prevent marine pollution. Investigation, detention, and similar acts of enforcement are more readily accomplished and less obstructive to the trade process when a vessel is lying at anchor in port than when the vessel is at sea"⁵¹.

Evolution and Development of Memorandum of Understanding on Port State Control

The purpose of Memorandum of Understanding⁵² is to eliminate substandard and unseaworthy vessels and thus to protect the marine environment. The Port State Control Officers⁵³ enter on board of the vessel in the port and will check all documents and conditions as per international rules and standards on seaworthiness. The ship is detained and the report is sent to the flag state. The MOUs are legally binding agreements like a treaty. They invoke the international conventions on safety and pollution free shipping. The first MOU was adopted in Hague in 1978⁵⁴. The Hague MOU gave way to the Paris MOU in 1982. The Paris MOU was enacted in December 1980 at the Regional European Conference on Maritime Safety. By means of the IMO

⁵⁰ *Id.*,art.219

⁵¹ B. Smith, *State Responsibility and the Marine Environment*, Oxford, Clarendon (1988)

⁵² Here in after to be referred to as the MOU

⁵³ Herein after to be referred to as the PSCOs

⁵⁴ The Memorandum of Understanding between Certain Maritime Authorities in the Maintenance of Standards on Merchant Ships (Hague MOU), 1978

Resolution⁵⁵ and the Paris MOU, other regional agreements were adopted subsequently⁵⁶. Through information shared on their websites, the secretariats of the MOUs join hand with the IMO in identifying and bringing into stringent control unseaworthy and substandard shipping⁵⁷.

Newer and advanced versions of vessel sourced pollution have given birth to stringent international norms to control it. The Ballast water convention, the bunker convention, antifouling convention, ship recycling convention and the latest amendments to the STCW are all depictions of nation's concerns over vessel sourced pollution. Under these international regulations, shipping is being operated in ports under special scrutiny of the port authorities. External control is exerted by port administrations in the form of manning requirements, pilotage, vessel traffic surveilling and policing⁵⁸.

Evolution and Development of the Control of Vessel Sourced Pollution in Ports in India

During the British rule, India did not have a consolidated law on merchant shipping. Even after independence, India does not have a consolidated admiralty law covering all aspects of shipping. "The courts in India are still following the English judicial precedents"⁵⁹. The same opinion was depicted in the first and fifth reports of the Law Commission of India. The

⁵⁵ The IMO res. A. 682

⁵⁶ They are the Latin American MOU 1993, the Tokyo MOU 1993, the Caribbean MOU 1996, the Mediterranean MOU 1997, the Indian Ocean MOU 1999, the Abhuja MOU 1999, the Black Sea MOU 2000 and the Riyadh MOU 2005

⁵⁷ John Hare, "Port State Control: Strong Medicine to Cure A Sick Industry", 26 *Georgia Journal of International and Comparative Law* 571 (1996-1997)

⁵⁸ George C. Kasoulides, "Jurisdiction of the Coastal State and Regulation of Shipping", 45 *RHDI* 144, (1992) at p.33

⁵⁹ The Law Commission of India, 151th report on Admiralty Jurisdiction

Parveen Singh Committee⁶⁰ had also opined similar views on this. The committee had stressed the need to enact the Admiralty Act and to re-define the role and jurisdiction of Indian High Courts in administering admiralty law. In the historic case *M.V. Elisabeth and Others v. Harwan Trading and Investments Pvt. Ltd.*⁶¹, Tommen, J had emphasized need to codification of the law relating to admiralty jurisdiction in India.

The High Courts in India are exercising admiralty jurisdiction by virtue of the colonial legislations⁶² and the decision in the *M.V. Elisabeth's* case.

Before independence, Indian ships were conducting voyage under the U.K. Merchant Shipping Law. Following the enactment of the Supreme Court of Judicature Act, 1773, in England, many laws in admiralty were passed in India and the need for codification became a necessity. The earliest Indian laws on merchant shipping were the Bombay Coasting Vessels Act, 1938, the Indian Registration of Ships Act, 1841, as amended in 1950 and the Indian Merchant Shipping Act, 1923. The M.S. Act, 1923 was a comprehensive legislation and had no provisions for the control of pollution and had no concern for safety of international shipping. Later on India ratified the Load line Convention, 1930 and the SOLAS, 1948. The Merchant Shipping (Amendment) Acts of 1933 and 1953 incorporated the respective provisions.

After getting independence, the parliament had passed the consolidated law, the Merchant Shipping Act, 1958. The Amendment in 1966 to the Act incorporated the provisions of SOLAS 1960. The Amendment in 1983

⁶⁰ The Committee appointed by the Ministry of Surface Transport of the Government of India, under the Chairmanship of Mr. Parveen Singh, the Director General of Shipping in 1986

⁶¹ JT 1992 (2) SC 65

⁶² These laws are the such the Admiralty Offences (Colonial) Act, 1849, the Colonial Courts of Admiralty (India) Act, 1891, the Admiralty Jurisdiction Act, 1860, the Admiralty Court Act, 1861, the Letters Patent, 1865

incorporated the provisions of the International Convention on Control and Prevention of Pollution of Sea by ships and Oil Pollution damage⁶³. The 1988 amendment inserted the provisions of the International Convention on Civil Liability for Oil Pollution Damage, 1969 and the 1976 Protocol⁶⁴. Part X of the Act also contains provisions for collisions, accidents at sea and liability. Part XIA is on the prevention and containment of pollution of the sea by oil. Part XII deals with investigations and inquiries and Part XIII on wrecks and salvage.

A major amendment to the Act was made in 2002, which incorporated the international law on liability and compensation for pollution damages by ships. The year 2003 witnessed yet another important amendment where by the provisions of MARPOL Annexes for the prevention of vessel sourced pollution was incorporated into the Indian Law. The Regulations under the M.S. Act implements all major provisions of MARPOL on vessel sourced pollution. The Indian law on MARPOL amendments is kept updated by means of circulars and regulations issued by the Director General of Shipping in India.

As regards the enforcement, the provisions of the Indian Ports Act, 1908 are applicable inside the port area. The Indian coast guard is also given powers to mitigate marine pollution damage under the Indian Coast Guard Act, 1978.

In addition to these legislations, many other Acts like the Environmental Protection Act 1986, and the Water (Prevention and Control of Pollution) Act, 1974 have application on the control of vessel sourced pollution in ports. For example, the bye laws under the Bio- diversity Act, 2002, the fisheries conservation laws and general environmental laws such as the Hazardous Wastes (Management, Handling and Trans-boundary Movement) Rules, 2008, the Batteries (Management & Handling) Rules, 2001 and the Gujarat Ship Recycling Regulations, 2006 finds application in the control of vessel sourced pollution in ports.

⁶³ The Merchant Shipping Act, 1983, Part XB

⁶⁴ *Id.*, amended in 1988, inserted Part X C

The statutory provisions of the M.S. Act, 1958 are inadequate to solve the issues of admiralty jurisdiction. Admiralty law in India is still a grey area of jurisprudence. India is a party to all major international conventions on shipping. India needs a consolidated admiralty law in order to be comparable with the international system and to meet the dynamic requirements of the shipping industry.

The Parliament in India had discussed on Admiralty Bill in 2005. The Bill was introduced to consolidate the admiralty law in India, to confer civil jurisdiction with the High Courts and to detail on the scope of admiralty jurisdiction⁶⁵. The bill confers jurisdiction on Admiralty courts to adjudicate any 'claim for damage caused by the ship including civil liability for damage caused by oil pollution covered under the Merchant Shipping Act 1958'⁶⁶. Nothing was heard about the Bill after that. Unless the Bill is enacted into Admiralty Act, there cannot be efficient adjudication of maritime claims in India. The evils of forum shopping will continue to happen.

Similarly, the Indian Ports Bill, 2011 is also under consideration of the Parliament⁶⁷. The Shipping Ministry in India had appointed a committee under the Cochin Port Trust Chairman C. Babu Rajeev in 1997 to review the Indian Ports Act, 1908 and the Major Port Trust Act, 1963. The New bill consolidates the provisions of both the Acts. Unless, the Indian Ports Act, 1908 is amended to incorporate the sweeping changes happening erstwhile in the world on the enforcement of maritime claims on pollution in ports, the Indian law will not be contributing to the IMO vision of clean ports.

⁶⁵ The Admiralty Bill, 2005

⁶⁶ *Id.*, s. 5(2) (f)

⁶⁷ The Indian Ports Bill, 2010

Chapter 3

REGULATING ACCESS AS A METHOD TO PREVENT PORT POLLUTION

Since time immemorial, sea ports were recognized as ‘a gateway to the city and country which it serves’¹. In addition, they provide indispensable services and facilities for the sea transport such as pilotage, towage, mooring, cargo handling, storage and navigational aids. Naturally, the purpose of maritime ports cannot be accomplished without facilitating free ingress and egress of vessels. Thus, ‘access to maritime ports’ is important to facilitate international trade.

The port state’s right to deny access to unseaworthy and substandard vessels is well recognized under international law. The judicious use of this right will resolve many pollution issues connected with substandard shipping in ports. In no case, the criteria for denial should overlook international law. In addition, the port state actions should not be curtailing trade but facilitating it.

Denial of access to foreign vessels is certainly a unilateral port state action. Port state denial on unconvincing grounds may stir up hot political arguments between the flag state and port state, which may crumble the trade relations and economy. Therefore, Port state jurisdiction should be carefully invoked, balancing all hostile interests; it should not be mere political knee jerk reactions. “Trade and environment are two facets of the same coin; both have to compliment mutually...at least in the sense that increasing world welfare can lead to citizen demands and governmental actions to improve protection for the environment”².

¹ Marvin L. Fair, *Port Administration in United States*, Cornell Maritime Press, Centreville (1954)

² Jackson J.H., “World Trade Rules and Environmental Policies: Congruence or Conflict?” 49 *Washington & Lee Law Review* 1227 (1992), p.1

“Safe ports are less prone to pollution effects”³. Hence, the current Indian practice of giving access to different types of vessels and the criteria set by law for denying access is critically examined. A comparative study is attempted on the basis of universal denial policies and general international law on the topic.

Why there should be Port State Jurisdiction- an Additional Safety Net?

In comparison to land based sources, vessel sourced pollution is deteriorating since 1970's.

“ ... as a result of the stringent regulations, the pollution from maritime transportation have fallen below 75% during the period of 1973 to 1989, and generally about 60% ever since 1970's”⁴. Maritime trade is intensively regulated at the international level and naturally, a question on the relevance of more powers to port states arises. The legality of strict port state enforcement on environmental grounds is a substantial issue.

Prior to 1970, port states had limited power for denying access under the customary international law. Under the aegis of the International Maritime Organization⁵, many international conventions were adopted on safety in shipping and pollution control. The implementation of these conventions would not have been possible without considering coastal state interests. Also, the traditional flag state responsibility was not found adequate to monitor substandard ships. Thus, coastal and port state jurisdictions got ample recognition under the conventional law.

³ Peter G. Davies, “Safer Ships and Cleaner Seas: A Review Article on the Report of Lord Donaldson's Inquiry into the Prevention of Pollution from Merchant Shipping”, 44 *International & Comparative Law Quarterly* 927 (1995)

⁴ Joint Group of Experts on the Scientific Aspects of Marine Pollution, “Impact of Oil and Related Chemical and Wastes on the Marine Environment”, Reports and Studies No.50, the IMO, London (1993)

⁵ Hereinafter to be referred to as the IMO

Dr. Oya Ozcayir says, “In an ideal world there is no need for the port state control but when the regulatory regime falls below the required standards, port state control gains prominence”⁶. In the *San Marco Case*⁷ the loopholes in the ‘international safety net’ were unveiled and the need for more powers to port states was emphasized. The Canadian Coast Guard had detained the vessel in 1993, for serious deficiencies. The P&I club withdrew its insurance and the classification society its class in the same year. Later it was certified by the Hellenic Register of Shipping surveyor to be in “good condition and maintenance”. The Canadian Coast Guard had no legal authority to demand immediate repair works of the vessel. As a result, the vessel continued to trade in an unseaworthy condition under the class certification from the register till 1995. In November 1995, off 15-200 miles from the South African coast, the vessel lost two shell plates from both sides and cargo worth 5000 tons in that hold. The case is significant from the perspective of existing deficiencies in the international regulatory regime on flag state inspections and monitoring.

Thereafter, on 12th December 1999, the super tanker *Erika* broke off into two along the coast of Brittany in France, spilling around 30,000 tonnes of crude oil devastating the entire coastal area. This was a major marine casualty that had triggered the demand for strengthening port state powers. The IMO decided to re-assess industry’s safety net by giving more powers to port states.

A flag state is least concerned about pollution incidents beyond their territories and is mostly reluctant to take enforcement actions against its own vessels. Flags of convenience and open registries set serious limitations for the flag state implementation⁸. At the same time, the coastal and port states have to control substandard shipping and take precautions against pollution of their

⁶ Dr. Z. Oya Ozcayir, *Port State Control*, Informa Professional, London/ Hongkong (2001), P.93, para.4.1

⁷ *Ibid*

⁸ Here in after to be the FSI

coasts. Therefore, major coastal states expanded their jurisdictional powers under the existing conventional scheme by means of unilateral legislations.

Owing to the newer versions of vessel pollution such as the biological, nuclear, chemical and air, the environmental consciousness of littoral states have intensified in the past few decades. The devastations of marine pollution are felt largely on the coastal area, which also justifies coastal and port states' resilient jurisdictional control over foreign vessels.

The dynamism in maritime operations resulting in lower turnaround time of vessels and increased cargo handling capacities compels the need for meticulous regulations on vessel standards and movements in the port area. The ever demanding revolutionary transformations in the needs of the industry has promulgated advancements in naval architecture and ship building technology to contribute vast diversity in marine fleet involved in the sea transport. Political controversies like the 'Suez Canal crisis' has led to the manufacturing of super tankers like the Very Large Crude Carriers⁹ and Ultra Large Crude Carriers¹⁰ that could carry voluminous cargoes in lesser time schedules. As these giant ships ply across the oceans carrying hazardous and dangerous cargoes, the strong call for yet another safety grid in the regulatory regime is justified by all means.

Speaking on the Torrey Canyon Disaster Goldie had said:

“...the legal system and public opinion have significantly failed to keep pace with the development of tankers and their noxious cargoes of ever growing bulk and threat. Significant differences set the giant tankers apart from all cargo ships, for example, their ratio of their dead weight to their net tonnage, their power with their ratios, their draft when laden, their

⁹ Here in after to be the VLCC's

¹⁰ Here in after to be the ULCC's

maneuverability, and their minimum turning circles. Indeed, relative to the bulk they carry and their power, they are ‘no more than fragile containers transporting vast quantities of noxious fluids’. The larger these vessels become, the more cheaply it is said, they can carry their cargoes from production to distribution centers. On the other hand, the more they increase in capacity, the greater will be the risk to coastal and insular populations, and to ocean environment, of pollution by oil. Hence, the economies these big ships create are, at least in part, not merely economies in size, but also savings made at the expense of third parties (namely coastal populations) and environment”¹¹.

It is a strenuous task for any flag administration to scrutinize these vast spectra of super modern marine fleet. At the same time, many vessels visit ports for undertaking repair works and may be in unseaworthy conditions. The potential threat offered by this manifold fleet to port environment is unpredictable and mandates their timely inspections and detentions. Therefore, port state control is a necessity to ensure sustainable shipping.

In the post- world war era, crude oil emerged as the primary source of energy and the prime commodity for maritime transport. As a result, the American, French and British coasts were largely affected by the tanker casualties such as the *Torrey Canyon*, *Exxonvaldez*, *Amococadiz*, *Prestige* and *Erika* and there were public uproars in these countries against the loopholes in the existing regime of flag state control. Consequently, these maritime countries responded rigorously by enforcing their sovereignty over ports. The traditional notions of free navigation eroded in favour of punctilious coastal

¹¹ L.F.E. Goldie, “International Principles of Responsibility for Pollution”, 9 *Columbia Journal of Transnational Law* 283 (1970)

regulations on vessel movements. Thus, port state jurisdiction became more scrupulous in developed countries like North America, Canada, the United Kingdom and Australia. "...growing demand for oil as a source of energy in industrialized economy was a major cause of increased maritime transport across the globe" and therefore more risks of major spills and the requirement of tight enforcement regime¹².

Evolution and Development of the Concept of Port State Jurisdiction

Over a period of time, the un-debated and exclusive flag state enforcement has been reiterated in all maritime conventions and bilateral treaties. The SOLAS Convention, 1914 had vested with the flag states full responsibility for issuing certificates and their compliances. Under it, port states were given minimal powers to check these certificates and inform flag states of the deficiencies.

The International Convention for the Prevention of Pollution of the Sea by Oil, 1954¹³ had also given primacy for flag state enforcement. The right of the coastal state to intervene in case of pollution threats affecting directly its coastal line, even though the incident happens beyond its limits, became a hot topic for debates after the *Torrey Canyon*. This right got recognized legally by means of two major IMO conventions, i.e. the Intervention Convention¹⁴ and the Civil Liability Convention¹⁵.

The IMO has been continuously imposing increased obligations on both the flag states and port states to ensure safety and pollution free shipping. This

¹² B. Shaw, "Global Environment: A proposal to eliminate Marine Oil Pollution", 27 *Journal of Natural Resources Life Sciences Education* 157, (1987)

¹³ Herein after to be referred to as the OILPOL 54

¹⁴ The International Convention Relating to Intervention on the High Seas in cases of Oil Pollution Casualties, 1969

¹⁵ The International Convention on Civil Liability for Oil Pollution Damage, 1969

was the time when the meetings of the Law of the Sea Convention, 1982¹⁶ were also going on. By then, the IMO had adopted four major maritime conventions¹⁷, which could have been implemented only by giving more powers to port states. In 1973, at the conference on marine pollution, port state jurisdiction was introduced for the very first time. Even though this proposal was rejected, the MARPOL Convention strengthened the Port State enforcement regime.

The MARPOL states¹⁸:

“...the port officials in the contracting states may inspect a foreign vessel in order to verify whether it has discharged in any sea area harmful substances in violation of the regulations annexed to the convention”.

This right of inspection applies when the port officials receive from any other party to the convention, a request for an investigation together with “sufficient evidence that the ship has discharged harmful substances or effluent containing such substances in any place”¹⁹.

As per MARPOL²⁰, a party (or the port State) must enact law prohibiting violations of the requirements of the convention ‘within its jurisdiction’ and establishing sanctions for such violations.

¹⁶ Herein after to be referred to as the UNCLOS III

¹⁷ The International Convention for the Prevention of Pollution from Ships 1973, as modified by the Protocol 1978, (MARPOL 73/78); the International Convention for the Safety of Life at Sea, 1974 as amended (SOLAS 74); the Protocol of 1978 relating to SOLAS 74; and the International Convention on the Standards of Training, Certification and Watch Keeping for Seafarers 1978

¹⁸ MARPOL 73/78, art.6(2)

¹⁹ *Id.*, art. 6(5)

²⁰ *Id.*, art. 4(2)

By the time the UNCLOS III discussions were going on, many proposals were moved by the U.S.A and other western European countries upon port state enforcement powers. At first there was no distinction as to coastal state and port state enforcement. The major proposal on port state enforcement was moved by nine European Countries in the draft convention²¹.

Under this proposal, port state enforcement could be conducted irrespective of the place of occurrence of the maritime casualty that had happened within the immediate six months. Yet, the port state enforcement was primarily given an optional status and mandatory only when the information and request was forwarded by any other state. It is interesting to note that “India had agreed to this in principle, but suggested an extension of six months period for the institution of proceedings and more severe penalties for culprits”²². The suggestions and proposals had significant impact on the final adoption of the provisions²³.

²¹ The draft convention adopted by the Conference in 1973, art.3, Quoted in George C. Kasoulides, *Port State Control and Jurisdiction: Evolution of the Port State Regime*, Martinus Nijhoff Publishers, Netherlands (1993), pp. 119-120

²² *Ibid*

²³ UNCLOS III, art. 218: (1) the port state may initiate investigations and proceedings against vessels for violations of international standards on discharges happening beyond the internal waters, territorial sea and the EEZ, when the vessel is voluntarily within its ports

(2) The port state cannot initiate proceedings under paragraph 1 of art.218, unless requested by the flag state, the state affected or its own territory is affected by pollution because of such discharges

(3) The port states shall suspend the investigations and sent the reports of investigation, together with all evidences and financial security if any to the coastal state as the case may be. After the investigations, the port state shall give report to the flag state

Art.219 reads: Subject to the provisions of S.7, if pollution is proved, the port state may take administrative measures of detention from preventing the vessel to sail further, if not to the nearest repair yard until the deficiencies are cured

Similarly, UNCLOS recognizes competence of port states to prescribe port entry conditions in internal waters subject to its due publicity²⁴. When creating laws with regard to prevention, reduction and control of pollution, states are obligated to give effect to the ‘generally accepted international rules and standards, established through the competent international organization or general diplomatic conferences’²⁵.

Legality of Port State Jurisdiction

Maritime ports are a part of the internal waters²⁶ of the coastal state and hence they come under its exclusive sovereignty. The classical or traditional approach to claims over internal waters is based on the theory of territorial sovereignty. The concept of territorial sea emerged in 1357 from the Latin term ‘*territorio mari*’. It was used to describe the 100 mile reach out into the ocean for the purposes of defense, customs and criminal jurisdictions²⁷. Even after centuries, the purposes for claiming territorial jurisdiction remain more or less the same. The territorial imperialism has nothing to do with conservation of resources, but it has always been the basis for claims over adjacent waters.

The principle, ‘land dominates the sea’ was virtually established in the *North Sea Continental Shelf Case*²⁸. The court had emphasized on the ‘natural prolongation’ of the land as a criteria in determining coastal state’s rights of exploration and exploitation in the continental shelf as opposed to the claims of other states²⁹.

²⁴ *Id.*, art.211

²⁵ *Ibid*

²⁶ UNCLOS III, art. 8 reads: “Except as provided in Part IV, waters on the landward side of the baseline of the territorial sea form part of the internal waters of the state”

²⁷ Thomas W. Fulton, *The Sovereignty of the sea*, The Law Books Exchange, London, (1911, reprint 2002), p.539

²⁸ (*Federal Republic of Germany v. Denmark v. Netherlands*) [1969] I.C.J Reports 31

²⁹ *Id.*, p.51

While deciding the *Aegean Sea*³⁰ dispute, the International Court of Justice³¹ held that rights such as the exploration of continental shelf are legally an emanation from and automatic adjunction of the territorial status of a coastal state and hence are subject to domestic reservations.

In the *Fisheries Jurisdiction Cases*³², the preferential rights of coastal states over fisheries zone were recognized as opposed to the claims of distant water fishing states. International law thus mandates the acquiescence of the state to pass over her territory. Judge Chagla in the Case of *Right of Passage over Indian Territory* had held³³:

“...I think it is equally indisputable that prima facie a State enjoying territorial sovereignty has the right to allow or to prohibit a right of passage or transit under such terms and conditions as she thinks proper.”

The International Law Commission had expressed important views³⁴:

“...in the interest of all States belonging to the community of nations that diplomatic relations between the various States should proceed in a normal manner and that in general, there-fore, the third State should grant free passage to the member of a mission and to the diplomatic courier. It was pointed out, on the other hand, that a State was entitled to regulate access of foreigners to its territory”.

³⁰ *Greece v. Turkey*, reported in 73 *The American Journal of International Law* 502, (1979), para.88

³¹ Here in after referred to be as the ICJ

³² *United Kingdom v. Iceland*, [1974] I.C.J. Reports 3; *Federal Republic of Germany v. Iceland*, [1974] I.C.J. Reports 175

³³ (1957) I.C.J. Reports 174

³⁴ The Report of the International Law Commission, U.N. doc. A/3859, (1958), p. 25

Similarly, a state's authority to exclude *aliens* from the territory is also recognized by international law as an important aspect of her sovereignty.

E. Lauterpacht opined³⁵:

“A State, it is said, is sovereign over its territory. If sovereignty means anything in this context, it must comprehend the right to exclude aliens or to prevent the construction or use of instrumentalities dedicated to the transit of persons or goods”.

Ports belong to internal waters and are the natural extensions of the land territory. As ports belong to the realm of internal waters and no right to innocent passage is recognized in this area, the port states are empowered to exclude any vessel from its territory, subject to customary and conventional laws. There is dispute regarding the exercise of port state jurisdiction over a foreign ship within a port when the peace and tranquility of the port are not affected. But, there is no doubt on the powers of port states to arrest a foreign ship in port regardless of the place where cause of action arose, when the peace, good order or tranquility of the coasts is disturbed.³⁶

In *Hogg v. Beerman*³⁷, the U.S Court had held that,

“The oceans with its gulfs and bays belong to no nation. Jurisdiction is allowed to such a distance from shore, as the protection of that shore requires. This distance was fixed as a marine league at a time when no gun could

³⁵ E. Lauterpacht, “Freedom of Transit in International Law”, 44 *Transactions of the Grotius Society* 317 (1958)

³⁶ *The Republic of Panama on behalf of Compania de Navigacion Nacional v. The United States of America*, 28 *American Journal of International Law* 596, (1934), cited in Philip C. Jessup, “Civil Jurisdiction over Ships in Innocent Passage”, 27 *The American Journal of International Law* 749 (1933)

³⁷ *Id.*, (1884) *Ohio State Reports*, 81, p. 95

force a ball further. But over inland waters, the nations in which they lie may hold both as sovereigns and as proprietors”.

In *Alsos v. Kendell*³⁸, the U.S. Supreme Court held:

“No rule of international law is more firmly established than that of a sovereign state includes the lakes, seas and rivers entirely enclosed within its limits”.

Limitations of Port State Enforcement under the UNCLOS Regime

The port states has no general power unilaterally to impose its own requirements on foreign ships relating to their construction, safety, equipment and crewing, which are to have effect on the high seas. Such a jurisdiction will apply only in case of vessels that are in a hazardous condition³⁹.

The port states may initiate proceedings against foreign flag vessels for pollution incidents in high seas, which have effect on its coasts, provided the vessel is ‘voluntarily’ in its port for the time being⁴⁰. Hence, if the incident occurs on the territorial waters of another state, the port state enforcement will be possible only upon the request of the flag state or the state where in which the incident of pollution happens. Also, the vessel should have been made a voluntary entry into the ports and not on distress.

No one can predict with utmost precision, where the effects of pollution may occur even if the incident happens in high seas. Ultimately, the pollutants may settle in port waters also. Hence, the port state enforcement for incidents on high seas is justified on the basis of two principles, the effects doctrine and

³⁸ *Id.*, (1924) Oregon 359, 369, 227, Pacific 286, 289

³⁹ UNCLOS III, arts. 218 & 219. *See also*, *William Rodman Sellers v. Maritime Safety Inspector*, New Zealand CA 104/98, Lloyd’s Maritime Law Newsletter, May 1999 & Dr. Z. Oya Ozcayir, *Port State Control*, *op.cit.*6

⁴⁰ *Id.*, art.218

the universality principle. Practically, it is impossible to establish a link between discharge on high seas and its pollution impact on the coasts.

The ‘effects principle’ was discussed in detail in the *Lotus case*⁴¹. The main issue in this case was the scope of criminal jurisdiction of the port state over a foreign vessel with respect to the events that had taken place on high seas. The flag of the ship follows it everywhere. Therefore, events happening on board of a vessel on high seas should be considered as events occurring in the flag territory. Similarly, if the events occurring on high seas had any ‘effects’ on the vessel of another flag state or on the territory of a state, no rule in international law would prevent those states from initiating legal proceedings against the transgressing vessels⁴². The *Lotus case* had expanded considerably the scope of port state jurisdiction.

To overcome the difficulty set by the *Lotus* decision, article 97 was inserted in UNCLOS III. Accordingly, in the event of collision or any other incident of navigation concerning a ship on high seas, the criminal jurisdiction of coastal states should not be exercised for penal or disciplinary responsibility over the master or any other person in service of the ship. This could be done only under the penal laws of the flag state or the state of which such person is a national.

⁴¹ *S.S. Lotus (France v. Turkey)*, 1927 P.C.I.J. (ser. A) No. 10 (Sept. 7), p.25

⁴² *Id.*, The PCIJ said:

“ [If], therefore, a guilty act committed on high seas produces its effects on a vessel flying another flag or in foreign territory, the same principles must be applied as if the territories of two different states were concerned, and the conclusion must, therefore, be drawn that there is no rule of international law prohibiting the state to which the effects of the offence have taken place belongs, from regarding the offence as having been committed in its territory and prosecuting, accordingly, the delinquent.”

UNCLOS III sets limitations of coastal states criminal jurisdiction on board a foreign ship, save “if the consequences of the crime extend to the coastal state; if the crime is of a kind to disturb the peace of the country or the good order of the territorial sea; if the master requests for local help; if such measures are for suppressing illicit drug trafficking”⁴³.

Reading together both these articles, it is clear that a coastal state may enforce its penal laws over foreign vessels beyond her territory only if “the effects have consequences or impacts on her territory or national interests”.

In matters of control of marine pollution and jurisdiction over the EEZ, coastal states are having undisputed extra territorial criminal jurisdiction on board a foreign vessel⁴⁴.

The coastal state should not stop or divert a foreign ship passing through the territorial sea for the purpose of exercising civil jurisdiction in relation to a person on board the ship⁴⁵. In the case of civil proceedings, arrest of the foreign ship is permissible only against liabilities incurred by the vessel during its voyage through coastal waters⁴⁶. Thus, when generally matters fall under the purview of “internal affairs of the ship”, coastal states should not interfere. The position is similar in Anglo-American jurisprudence also.

State Practices on Jurisdiction over Internal Affairs of the Vessel

In *Queen v. Anderson*⁴⁷, Justice Blackburn had opined:

“...A ship which bears a nation’s flag is to be treated as a part of the territory of that nation. A ship is a kind of

⁴³ UNCLOS III, art. 27

⁴⁴ *Id.*, cl.5

⁴⁵ *Id.*, art.28

⁴⁶ *Ibid*

⁴⁷ L.R. 1 Crown Cases Reserved 161, cited in R.R.Churchill and A.V.Lowe, *The Law of the Sea*, Juris Publishing, Manchester University Press, U.K. (1999)

floating island. Yet when a foreign merchant vessel comes into our ports, like a foreign citizen coming into our territory, it subjects itself to the jurisdiction of this country”.

Thus, in the case of foreign merchant ships, a coastal state will be reluctant to exercise jurisdiction on matters pertaining to the internal affairs of the ship. If anything affects the peace, tranquility or good order of the port, the ‘vital interest’ theory will prevail and the sovereign power of the coastal state will extend even to the internal matters on board the vessel.

In *Cunard SteamShip Co.Ltd. v. Mellon*⁴⁸, it was held that the coastal state’s jurisdiction over foreign merchant ships in ports is complete, but as a matter of policy, it may choose to forgo the exercise of jurisdiction.

In the *Wildenhus’ case*⁴⁹, where the jurisdiction of a state court over one charged with murder committed on board a foreign merchant vessel in a harbour of the state was sustained, Mr. Chief Justice Waite⁵⁰ held:

“...It is part of the law of civilized nations that, when a merchant vessel of one country enters the ports of another for the purposes of trade, it subjects itself to the law of the place, to which it goes unless, by treaty or otherwise, the two countries have come to some different understanding or agreement. . . . From experience, however, it was found long ago that it would be beneficial to commerce if the local government would abstain from interfering with the internal discipline of the ship, and the general regulation of the rights and duties of the officers and crew towards

⁴⁸ 262 U.S.100 (1923)

⁴⁹ 120 U.S.1(1887)

⁵⁰ *Id.*, pp.11-12

the vessel or among themselves. And so, by comity, it came to be generally understood among civilized nations that all matters of discipline and all things done on board which affected only the vessel or those belonging to her, and did not involve the peace or dignity of the country, or the tranquility of the port, should be left by the local government to be dealt with by the authorities of the nation to which the vessel belonged, as the laws of that nation or the interests of its commerce should require. But if crimes are committed on board of a character to disturb the peace and tranquility of the country to which the vessel has been brought, the offenders have never, by comity or usage, been entitled to any exemption from the operation of the local laws for their punishment if the local tribunals see fit to assert their authority.”

The French position may be theoretically different but for practical purpose, it is similar to the American practice. Local jurisdiction will be exercised when there is an imminent and potential threat to peace or good order of the port either literally or in a constructive sense. Thus, in the *Tempest*⁵¹, it was held that “some crimes, such as homicide had an intrinsic gravity, which apart from actual disturbance to the port resulting from their commission, warranted local intervention”.

The same view was followed in *People v. Wong Cheng*⁵². In this case, the appellant was accused of having illegally smoked opium, aboard the merchant vessel *Changsa* of English nationality while the said vessel was anchored in Manila Bay two and a half miles from the shores of the city. The

⁵¹ Cour de Cassation (1859), cited in *Churchill and Lowe.*, Op.Cit., at p.67

⁵² *Id.*, at p.46, (1922) Philippine R. 729

point at issue was whether the courts of the Philippines had jurisdiction over crime, committed aboard merchant vessels anchored in Philippine's territorial waters. The verdict went in favour of the local jurisdiction. The court had held:

“...to smoke opium within our territorial limits, even though aboard a foreign merchant ship, is certainly a breach of the public order here established, because it causes such drug to produce its pernicious effects within our territory. It seriously contravenes the purpose that our Legislature has in mind in enacting the aforesaid repressive statute.”

In *Public Minister v. Jensen*⁵³ (1894), there was a ship wreck due to master's negligence. Local jurisdiction was asserted, although the tranquility of port was ever affected.

In the case of criminal jurisdiction over foreign merchant ships, coastal states will assert jurisdiction where it is requested by the master of the ship, or the Flag state Consulate. In the Belgian cases, *Watson (1856)* and *Sverre (1907)*, the coastal state asserted jurisdiction for theft on board the vessel upon the request of the master⁵⁴. Local jurisdiction is normally exercised in cases when a non-crew member is involved⁵⁵.

Pollution, pilotage and navigational rules are strictly enforced in western European countries and in the U.S.A over foreign merchant ships.

In *United States v. Royal Caribbean Cruises Ltd.*⁵⁶, the defendant challenged the assertion of criminal enforcement jurisdiction for false

⁵³ Quoted in Philip C. Jessup, “Civil Jurisdiction over Ships in Innocent Passage”, 27 *The American Journal of International Law* 4 (1933) at p. 165

⁵⁴ *Id.*, at pp.159 & 160

⁵⁵ Churchill and Lowe, *Op. Cit.*, at p. 67,68, French case *Cordoba* in 1912 and Italian case the *Redstart* in 1895

⁵⁶ 11.F.Supp.2d 1358 [1997]

statements in oil record book⁵⁷ of one of its vessels for a discharge that had occurred in Bahamian waters. The United States referred the matter to Liberia, the flag state. The flag state gave report in favour of a reasonable doubt of willful discharge of oil into the ocean in violation of MARPOL 73/78. Although the discharge happened outside the U.S territorial waters, local jurisdiction was asserted. The court said:

“...If the policy of the goal of a comprehensive regime of anti-pollution measures is to be achieved, it is necessary that domestic and international law work together to the extent possible to maximize enforcement. The discharge of oil in an improper manner is one crime; the failure to keep ORB as required by MARPOL and Act to Prevent Pollution from Ships⁵⁸ is another; and the deliberate presentation of a false material writing to the U.S. Coast Guard is another.”

In *the Republic of Panama on behalf of Compania de Navigacion Nacional v. The United States of America*⁵⁹, the issue was whether a foreign ship in innocent passage through territorial waters is subject to the civil jurisdiction of the littoral state, and, specifically, to civil arrest in a libel for collision? The Commission held:

“The general rule of the extension of sovereignty over the three mile zone is clearly established. Exceptions to the completeness of this sovereignty should be supported by clear authority. There is a clear preponderance of authority to the effect that this

⁵⁷ Herein after to be referred to as the ORB

⁵⁸ 33 U.S.C.1901-15

⁵⁹ *Supra* n.36, at pp. 747-750

sovereignty is qualified by what is known as the right of innocent passage, and that this qualification forbids the sovereign actually to prohibit the innocent passage of alien merchant vessels through its territorial waters. There is no clear preponderance of authority to the effect that such vessels when passing through territorial waters are exempt from civil arrest. In the absence of such authority, the Commission cannot say that a country may not, under the rules of international law, assert the right to arrest on civil process merchant ships passing through its territorial waters”⁶⁰.

The law based on the existing admiralty practice is that:

“...a vessel which has been in a collision may be proceeded against wherever she is found. It is burden enough to the ship owner that his vessel may be libelled in any port of call. It would be a much more onerous burden if she could be pounced upon whenever she passed through the territorial waters of any state in the world. The admiralty bar would flourish in countries whose waters lie across any great mercantile trade route”⁶¹.

In *Manchester v. Massachusetts*⁶² and in *Carlson v. United New York Sandy Hook Pilots Association*⁶³, the U.S courts had applied this doctrine to fix extra territorial jurisdiction over foreign vessels and crew for maritime torts.

⁶⁰ *Id.*, p.748

⁶¹ *Id*

⁶² 139 U.S.240 (1891)

⁶³ (1899) 93 Fed.468

In *Capri Marine Ltd. v. Chief State Prosecutor*⁶⁴, a consolidated appeal of three cases, the Swedish Supreme Court decided that a Swedish administrative agency had jurisdiction to impose a pollution fee on the owner or operator of a vessel for pollution in Sweden's Exclusive Economic Zone, even if the vessel had not been asked to give information or been boarded or detained.

“The coastal states may and do exercise jurisdiction even beyond the territorial waters in order to prevent injury to their territory, to ensure self-preservation and to enforce their laws”.⁶⁵The ‘effects doctrine’ that was expounded in the *Lotus case* had expanded the scope of port state jurisdiction considerably, but, the concept attained a newer and qualified version under UNCLOS III and subsequent state practices.

The universality principle of port state enforcement has also been highly controversial because no international rule equalizes pollution incidents with maritime piracy or torture where universal prescription and enforcement becomes a necessity irrespective of the place of occurrence of the incident⁶⁶.

The wordings of article 218 of the UNCLOS III as to whom it applies seem to be quite ambiguous. Whether a third party is bound by the terms is also debated. The negotiators of the treaty had hoped for wide spread acceptance of UNCLOS by all states, at least some of its provisions will be generally accepted by states giving it a customary status. Hence, there are terms like “many states, all states, every state”, across many provisions in the treaty which seems to be quite ambiguous. Article 218 stresses for ‘applicable

⁶⁴ Case No. 26 (2004), quoted in 99*The American Journal of International Law* 472 (2005)

⁶⁵ L.H.J Legault, “The Freedom of the Seas: A License to Pollute?”, 21 *The University of Toronto Law Journal* 218 (1971)

⁶⁶ T.L. Mc Dorman, “Port State Enforcement: A Comment on Article 218 of the 1982 Law of the Sea Convention”, 28 *Journal of Maritime Law and Commerce* 318 (1997)

international rules and standards”. The port state enforcement is possible against a flag state even though it is not a party to UNCLOS III but only if it has accepted the international rules of discharge standards applied by the Port States⁶⁷.

“...where a Port State has ascertained that a vessel in one of its ports is in violation of ‘applicable international rules and standards’ relating to seaworthiness of vessels and thereby threatens damage to marine environment, administrative actions shall be taken to prevent the vessel from sailing until the causes of the violation have been removed or unless the vessel is going to the nearest repair yard”⁶⁸.

Now, what constitutes these applicable international rules, standards and practices? UNCLOS is an umbrella convention and its provisions cannot be implemented except by means of specific technical treaties on it⁶⁹. Hence, it cannot be considered to be binding upon a party who has signed UNCLOS but has not accepted a treaty which contains technical specifications like MARPOL. The IMO regulations cannot be said to be applicable international standards and practices from the perspective of state which is not a party to its treaties. Also, general guidelines by IMO on various maritime issues, unless incorporated in a treaty and signed by a party cannot bind them.

Sovereign Immunity- A Limitation on Port State Jurisdiction

A ‘warship’ for the purposes of the convention includes a “ship belonging to the armed forces of a State bearing the external marks

⁶⁷ *Id.*, at p.319

⁶⁸ The UNCLOS III, art. 219

⁶⁹ “Implications of the Entry into force of the United Nations Convention on the Law of the Sea for the International Maritime Organization”, the IMO Study report, LEG/MISC/2, 6th October 1997

distinguishing such ships of its nationality, under the command of an officer duly commissioned by the government of the state and whose name appears in the appropriate service list or its equivalent, and manned by a crew which is under regular armed forces discipline⁷⁰.” The coastal state may expel a warship from its territory, if it is not complying with the local laws⁷¹. The flag state is responsible for the loss or damage caused by the warship to the coastal state⁷². Warships and other government ships used for non-commercial purposes enjoy the privilege of sovereign immunity from civil and criminal jurisdiction of coastal states⁷³.

The traditional doctrine of ‘sovereign immunity’ exempts warships from the local jurisdiction in ports. In the *Schooner Exchange v. Mac Fadden*⁷⁴, the U.S Supreme Court had held that a public armed vessel in the service of a sovereign at peace with the United States is not within the ordinary jurisdiction of tribunals while within a port of the United States.

Thus, warships when entering the ports of coastal states should not violate the local laws. They are immune from arrest, civil and criminal jurisdictions of coastal states. The coastal state may at the most escort warships to high seas. Damages may be claimed against the foreign sovereign at the courts in his country for destructions done to the port and the coastal environment.

The doctrine of sovereign immunity to government ships was discussed in detail in the *Parliament Belge Case*⁷⁵. In this case, a collision occurred between the Dover tug ‘Doring’ and the mail packet steamer ‘Parlement Belge’

⁷⁰ UNCLOS III, art.29

⁷¹ *Id.*, art.30

⁷² *Id.*, art.31

⁷³ *Id.*, art.32

⁷⁴ 11 U.S.116 (1812)

⁷⁵ 5 P.D. 197 (1880)

owned by the Belgian State. In allowing the motion, Brett L. J., after reviewing the earlier decisions including the *Schooner Exchange* extended sovereign immunity to "...public property of any State which is destined for public use". Later in his judgment he stated that "...in the opinion of the Court the mere fact of the ship being used subordinately and partially for trading purposes does not take away the general immunity"⁷⁶.

The doctrine of sovereign immunity to public vessels became a practical difficulty when governments started involving in large scale commercial activities. Thus, the law was codified into the Convention for the Unification of Certain Rules Concerning the Immunity Of State-Owned Ships, 1926.

The Convention set the general rule that sea-going vessels owned or operated by states for commercial purposes shall be subject to the same rules of liability and to the same obligations as those applicable to privately owned vessels⁷⁷. It also states that the enforcement of such liabilities and obligations shall be subject to the same rules of jurisdiction, the same right of action and the same procedure as in the case of privately-owned vessels⁷⁸. These two articles are clear departure from the traditional doctrine of sovereign immunity under the English common law.

"Ships of war, state yachts, patrol vessels, hospital ships, fleet auxiliaries, supply and other vessels owned or operated by a State and being exclusively used at the time a cause of action arises on governmental and non-commercial service" are not subject to seizure, arrest or detention by any legal process or to proceedings in rem⁷⁹.

⁷⁶ *Id.*, at p.220

⁷⁷ The Convention for the Unification of Certain Rules Concerning the Immunity Of State-Owned Ships, 1926, art.1

⁷⁸ *Id.*, art.2

⁷⁹ *Id.*, art.3

The Judicial Approaches on Sovereign Immunity

In *Berizzi Brothers v. S.S. Pesaro*⁸⁰, the U.S. Supreme Court took the view that sovereign immunity shall be extended to all government ships for a public purpose; even if it carries trade it should be given the same status of warships.

In *The Republic of Mexico v. S.S. Bajor California*⁸¹, the U.S. Supreme Court doubted the correctness of its decision in *Berizzi*'s case and apparently declined to follow it on proof that the *Bajor California* though owned by the American government was in the possession of and being traded by a privately owned Mexican Corporation.

The Swedish Court in *the Rigmar case* decided that a "State cannot claim immunity if it engages in carriage with no idea of profit but still for a purpose such as the provision of supplies for the population which does not entail precisely state activity per se."

In *the Broadmayne*⁸², a privately owned vessel requisitioned by the crown on terms which amounted to a time charter, was granted freedom from arrest in respect of pre-requisition salvage claim. The ground of the immunity was the requisition.

In *the Porto Alexandre case*⁸³, the Canadian Supreme Court had asserted that "governments are not to acquire the property of foreign sovereign as it is opposed to international courtesy and therefore, such issues should be solved by negotiations."

⁸⁰ 271 U.S. 562 (1925)

⁸¹ American Maritime Cases, 1945, p. 277

⁸² 32 The Times Law reports 304 (1916)

⁸³ L. R. (1920) P. D. 30

In *the Christina*⁸⁴ it was held that the immunity to the foreign government would depend upon actual possession of the vessel, irrespective of the fact whether it is legally or wrongfully possessed and not on a claim to possession.

The United Kingdom and the United States of America were not parties to the 1926 convention and had not ratified it. Therefore, in these countries the right of an injured party to proceed against a foreign state-owned vessel had to be determined by the municipal law. Thus, a foreign State could successfully claim immunity from judicial arrest for all its state shipping irrespective of the nature of the service in these countries. Similar practices were followed by countries that followed the Anglo-American jurisprudence. This had created practical difficulties and the need for the restrictive application of the theory of sovereign immunity was felt.

The Restrictive Approach on Sovereign Immunity

The United States codified the restrictive approach to state immunity through the Foreign Sovereign Immunities Act, 1976. Two years later, the United Kingdom passed a similar legislation, the State Immunity Act, 1978. In addition to domestic law, efforts were undertaken to develop multilateral treaties governing foreign sovereign immunity issues. The Council of Europe adopted a European Convention on State Immunity and an Additional Protocol, 1976. The United Nations Convention on Jurisdictional Immunities of States and their Property was adopted in 2004. But it is not yet in force⁸⁵. After its entry into force, this Convention may serve as a new international norm in the field of state immunity.

This convention adopts the restricted law on immunity to government ships⁸⁶. Accordingly, government ships engaged in commercial activities

⁸⁴ 1938 A.C. 485

⁸⁵ The convention was adopted on 2nd December 2004

⁸⁶ The United Nations Convention on Jurisdictional Immunities of States and their Property, 2004, art.16

cannot claim immunity. Sovereign immunity is granted on a reciprocal basis by parties to the convention. Warships, or naval auxiliaries and other vessels owned or operated by a state and used, for the time being, only on government non-commercial service are alone exempted from arrest and civil proceedings in the coastal state. If in a proceeding there arises a question relating to the government and non-commercial character of a ship owned or operated by a state or cargo owned by a state, a certificate signed by a diplomatic representative or other competent authority of that state and communicated to the court would serve as evidence of the character of that ship or cargo.

State immunity is a critical issue in international litigation. Most of the countries have endorsed a restrictive form of sovereign immunity pursuant to which the “public acts” of foreign states are immune from jurisdiction in another state but the “private acts”, particularly commercial activity of the foreign state may be subject to jurisdiction in another state. The UN Convention, which was only recently approved by the General Assembly, may serve as an important multilateral treaty governing the field. Regardless of the legality of the UN Convention as a binding document, the legal framework for state immunity has experienced dramatic change in the last several decades both in India and internationally.

Right to Access Ports under the Customary International Law

There is no right to access to maritime ports under the customary international law. The prominent and single authority ever recorded on the existence of a customary right of entry to ports was the decision given by Aramco Tribunal in the arbitration between the Saudi Arabian government and the Arabian American Oil Company (Aramco) in 1958.⁸⁷ The tribunal had asserted the existence of a general right of entry to ports in customary international law and acknowledged a sovereign state’s right to supervise such

⁸⁷ *Saudi Arabia v. Arabian American Oil Company Ltd.*, 27 I.L.R.117 (1963)

an entry. The tribunal had relied heavily on the writings of Guggenheim⁸⁸ and the Statute of International Regime of Maritime Ports, 1923. But none of these documents is an authority on the topic. The tribunal had also relied on scholarly comments for establishing a customary right to port entry.

Hugo Grotius in 1609⁸⁹ had advocated for the freedom of navigation and free access to ports. Later on, Grotius's views were adopted by eminent of scholars of the 17th century⁹⁰. When exploring the thoughts of these eminent scholars, one would come to a conclusion that they have accepted in one way or other Grotius' theory of freedom of navigation. In fact, most of them have deduced the 'right to free access to ports' as a minor premise of that freedom⁹¹. A similar argument was put forth by the Netherlands and the United Kingdom delegations at the First United Nations Conference on the Law of the Sea⁹². Most astonishingly, some authors have even accepted *per se* customary right to

⁸⁸ P. Guggenheim, *Traite De Droit International Public*, Vol.1, Geneva (1953), p. 419

⁸⁹ Hugo Grotius, *The Freedom of the Seas*, Ralph Van Deman Magoffin trans., James Brown Scott ed., The Law Book Exchange Ltd., New Jersey (2001), pp.7-8

⁹⁰ Among those commentaries that support a customary right to access ports, the views of Columbus, Hyde, Cundick, Foulkes and Wolff are prominent. *See*, C. John Colombos, *The International Law of the Sea*, (6th ed.), Longmans, Green and Co.Ltd., London (1967), p.160; Charles C. Hyde, *International law Chiefly as Interpreted and Applied by the United States*, Little Brown and Co., Michigan (1922); R. Palmer Cundick, "International Straits: The Right of Access", *5 The Georgia Journal of International and Comparative Law* 107, 115(1975); R. R. Foulke, *A Treatise on International Law*, Winton, Philadelphia (1920), p.383; Christian Wolff, *Jus Gentium Methodo Scientifica Pertractatum* 115 (1764), *cited in* A.V.LOWE, *op.cit.*, p. 616

⁹¹ *See* Colombos, *Supra*.n.90, at p. 129

⁹² The Netherlands delegate asserted that "it is insufficient to declare the high seas open to traffic without also guaranteeing the right into seaports." The UK representative argued that, "passage was not impeded in waters which were essential to maritime communications. The main purpose of any maritime voyage was, after all, to arrive at a port of destination." *See*, [UN Doc. A/CONF.13/L.52 (1958)]

port access⁹³. Apart from these commentaries, there is no custom that supports a right of access to ports.

Right to Deny Access under Customary International Law

On the contrary, there exist clear state practices on denial of port entry. The scholarly writings of Guggenheim⁹⁴, Gidel⁹⁵ and Ralston⁹⁶ states of a general presumption that the sea ports of a state may be open to international merchant fleet and should be closed only when it is contrary to the sovereign state's interests. It is only a privilege or courtesy that ports should be kept open for trade and not an obligation. On the contrary, these writings acknowledge that there exists a customary right to close down ports to foreign merchant ships when the national interests are at stake⁹⁷. The arbitral decisions in the *Orinoco*⁹⁸, *Poggiolis*⁹⁹ and *Martini*, quotes the port state's sovereign right to close down maritime ports. In these disputes, the parties had acknowledged this right without any objection.

⁹³ Carnazza-Armari, *Traite De Droit International Public En Temps De Paix*, cited in Myres S. McDougal & William T. Burke, *The Public Order of the Oceans: A Contemporary International Law of the Sea*, New Haven Press, New Haven (1962), pp.104-05; Also see; Louis B. Sohn & Kristen Gustafson, *The Law of the Sea in a Nutshell*, West Publishing Company, Virginia (1984), pp.79-80.

⁹⁴ *Supra* n.88

⁹⁵ Gidel, *Le Droit International Public De La Mer*, Paris, Sirey. Tome I, (1939), p.39

⁹⁶ J.H.Ralston, *The Law and Procedure of International Tribunals*, Stanford University Press, Stanford (1926)

⁹⁷ Gidel, *supra* n.95, at p.664

⁹⁸ *Orinoco Steamship Company Case, (United States, Venezuela)*, Reports of International Arbitral Awards, Vol. XI, p. 180-204, (1910), http://legal.un.org/riaa/cases/vol_XI/227-241.pdf last accessed in December 2013

⁹⁹ *Poggioli case*, Reports of International Arbitral Awards, Vol. X, pp. 669-692, (1903), http://legal.un.org/riaa/cases/vol_X/669-692.pdf, last accessed in December 2013

The view that ports should be generally kept open for foreign vessels belongs to the contemporary school of international law. The modern scholars have adopted the view that there is no right to access ports whereas; there is a clear right to deny it on various occasions. The views of Degan¹⁰⁰, Hakaapa¹⁰¹ and Kasoulides¹⁰² are prominent on the right to deny access to ports. They acknowledge that it is desirable to keep open ports in order to facilitate trade.

The coastal states right to nominate and close down ports is a corollary of its right to deny access. These rights were recognized as early as in 1606 in the famous *Bates Case*¹⁰³. History also witnessed the closure of ports on occasions where the peace, safety and convenience of its citizens are affected¹⁰⁴. Prevention of coastal pollution was always considered as a major reason for closure of ports. For example, Kasoulides quotes¹⁰⁵, “...In 1971, the Dutch tanker *Stella Maris* was denied access to several European Ports as it carried toxic substances. In 1980, a Greek tanker was denied access to a port in Shetlands for environmental reasons”.

Access has been denied on the grounds of protection of “...public health and safety, to ships carrying explosive, ships carrying nuclear goods, to ships carrying passengers with contagious diseases, to ships carrying hazardous

¹⁰⁰ Quoted by C.G. Roelofsen, *Grotius and International Law*, Grotius Reader, L.E. Van Holk & C.G. Roelofsen eds. (1983), at p.12

¹⁰¹ K. Hakapaa, *Marine Pollution in International Law: Material Obligations and Jurisdiction*, Suomalainen Tiedeakatemia, Helsinki (1981), p.163

¹⁰² Kasoulides, *Supra* n. 21 at p.4-5

¹⁰³ *The case of Impositions (Bates case)*, (1606) 2 St 371

¹⁰⁴ Some major reasons to close down a port include security and good order on the shore, See, Tullio Treves, Laura Pineschi, *The Law of the Sea: The European Union and its Member States*, Martinus Nijhoff Publishers (1997), p. 97-125

¹⁰⁵ *Supra* n.21, p.22

wastes, for general coastal pollution prevention, to sub-standard ships and ships producing hazards to maritime navigation¹⁰⁶.

Fayette also quotes specific instances of denying access to foreign ships. For example, in 1985, New Zealand denied access to American nuclear ship *Savannah* into its ports. In the same year, Panama denied entry to a British ship carrying nuclear material. The European Union restricts the entry of oil, gas and chemical tankers into the community waters¹⁰⁷.

Another reason for closing down of ports seems to be political. France had adopted this practice quite a few times. For example, until 1923, France denied access to all its ports except for three vessels of USSR. Similarly, in 1947, France had closed Tunisian port to Egyptian vessel carrying food stuffs from Red Crescent Society purely on political considerations. The period of 1981-1984 saw closing of French ports to vessels of USSR for security reasons¹⁰⁸.

In the United Kingdom, denying access to ports is a practice that can be traced back to 1236, when no vessel was allowed to enter the port of Dover, except under the license from Henry III¹⁰⁹.

States generally deny access to vessels for violations of fishing regulations¹¹⁰. In 1991 Chile had extended its local law, beyond its Exclusive

¹⁰⁶ Louis De Fayette, "Access to ports in International Law", 11 *International Journal of Marine and Coastal Law* 1 (1996), pp. 1-22

¹⁰⁷ Directive 79/16/EEC, OJ No. L33, 08/02/79, p. 33.

¹⁰⁸ *Supra* n. 21, p. 7

¹⁰⁹ Quoted in A.V. Lowe, "The Right of Entry into Maritime Ports in International Law", 14 *San Diego Law Review* 597 (1977), p.612

¹¹⁰ Under the High Sea Fisheries Enforcement Act, 1992, the U.S had denied access to foreign and domestic vessels engaged in drift net fishing and those conducting operations in the Central Bering Sea not on the basis of an international agreement.

Economic Zone¹¹¹ for the conservation of sword fish¹¹². The European Community fishing vessels were denied access to Chilean ports since they failed to comply with the local law of Chile. The EU protested against this unilateral enforcement measures by Chile and the matter was finally settled through negotiations. The case is significant for it clearly shows the ambiguities in international law of the sea in defining the jurisdictional competence of coastal states over adjacent waters.

The above discussion shows that under customary international law there is no right of access to ports. Most states enjoy it as a privilege under the customary law and bilateral treaties. Whereas, there subsists a clear practice to deny entry of vessels when there is an imminent threat to the coastal environment. A coastal state can deny access to foreign ships, prescribe port entry conditions and nominate and close down ports by virtue of their sovereignty over internal waters. The customary international law makes it clear that every vessel in a port is under the complete sovereignty of the coastal state. This fact enables the local jurisdiction to compel the vessel to comply with local laws. Except for a few state practices stated above, states are generally reluctant to assert local jurisdiction over foreign merchant ships when the matter is coming under the internal affairs of the flag state. As a remedy, most states have made reservations by means of bilateral agreements, whereby the internal matters are left to the sole jurisdiction of flag states.

Ships in Distress- An Exception to the Port State Denial

The ancient regime of ship in distress suggested a customary practice of giving access to all leper ships on humanitarian grounds. The ancient regime of

¹¹¹ Herein after to be referred to as the EEZ

¹¹² For a summary of the case law see, Marcos Orellana, “The EU and Chile Suspend the Swordfish Case Proceedings at the WTO and the International Tribunal of the Law of the Sea”, *ASIL Insights*, February 2001, See, <http://www.asil.org/insigh60.cfm>, last visited in April 2011

places of refuge as explained by Jessup¹¹³ in the *Eleanor*¹¹⁴ follows that “the distress should be urgent and of grave necessity such as to cause apprehensions about danger in the minds of an honest and firm man. The necessity should not be a self-imposed one”.

In the *Creole arbitration* (1853)¹¹⁵, it was held that the coastal state had no right to release slaves on board a foreign ship driven into its ports by distress, although its laws prohibited slavery. Similar view was adopted in *Kate A.Hoff's case*¹¹⁶ and the *Brig Concurd Case*¹¹⁷. In these famous cases the view that ships in distress are excused from their inevitable entry into the place of refuge was recognized. In the Canadian case, *Cushin & Lewis v. R*¹¹⁸, it was held that even ships in distress should comply with some of the local laws such as reporting of cargo at the arrival at port. In the French case, *Carlo Alberto*¹¹⁹, it was held that vessels that are forced to seek refuge in the port of a state with an intentional unlawful entry enjoy no immunity from local jurisdiction.

Based on tradition and necessity, ships in distress have been enjoying immunity from coastal and port state jurisdictions especially regarding customs and revenue collection, trade laws in general, health issues and criminal

¹¹³ Philip Jessup, *The Law of Territorial Waters and Maritime Jurisdiction*, G.A. Jennings Co, New York (1927) p.207.

¹¹⁴ *The Eleanor*, 165 ER 1058 (1809)

¹¹⁵ Quoted in Anthony Morrison, *Decisions of International Arbitral Bodies*, Brill/Martinus Nijhoff Publishers (2012), Ch.4

¹¹⁶ *Kate A.Hoff v. The United Mexican States*, 23 The American Journal of International Law 4 (1929)

¹¹⁷ 13 U.S.387 (1815)

¹¹⁸ (1935) EX.C.R.103, quoted in Aldo E. Chircop, Olof Lindén, *Places of Refuge for Ships: Emerging Environmental Concerns of a Maritime Custom*, Martinus Nijhoff Publishers (2006), p.218

¹¹⁹ Quoted in J. Colombos, *Supra* n.90, p.329

matters. Both customary and conventional law imparts a general duty on port states to give access to a ship in distress on the basis of humanitarian grounds.

The *Erika* and *Castor* incidents have ignited the controversial debate on the coastal state's duty to give access to ships in distress¹²⁰. The reasons for the distress can be several; *force majeure* or even human actions like mutiny and piracy. The controversy is not regarding the entry of vessels into ports but their claim of immunity against local law on trade, customs, health, criminal and other matters. Coastal and Port states have respected this right of ships in distress under the customary international law, since time immemorial. The major issue is pertaining to scope of refuge in cases of potential threat to the port environment.

Does the vessel in distress have always the legal right to enter a safe port? If so, to what extent this right subsists? Does this right impart a corollary duty on coastal and port states to provide all necessary help to these vessels? What if the vessel is offering potential threat to coastal environment, health and security of the citizens? In that case, whether port state denial is permissible? What should be criteria when denying access to a vessel in distress? How should the coastal and port states and salvors act in such critical situations?

The right to enter ports in case of any emergency is an 'exceptional right' and not a 'normal right'. Even in normal cases, there is no right to access ports either under customary international law or any other law for the time being in force. This general rule is applicable to vessels in distress. State practices suggest that access to ports by ships in distress can be justified only on humanitarian considerations¹²¹.

¹²⁰ The local French port authority had denied access to the *Erika* and it sank in the Bay of Biscay in December 1999, causing catastrophic damage to the French Coastal community.

¹²¹ M. Théodore Ortolan, *Règles Internationales et Diplomatie de La Mer* 4d, vol 2, Librairie de Henri Plon, Paris, (1864), p. 322–323, quoted in Aldo E. Chircop, Olof

Right to Seek Place of Refuge under Contemporary International Law

Many jurists of the twentieth century clearly opine that a ship in distress does enjoy right to access ports¹²². The distress could be due to threat of *force majeure*, mutiny, piracy and such other real and imminent dangers. O'Connell opines that this right was gained mainly by treaty practice and gives the example of a treaty between the United States and Spain in 1795¹²³ in this regard. The Jay treaty¹²⁴ had provisions giving access for American vessels in distress to English ports. Similarly, friendship, commerce and navigation treaties between maritime countries normally vests with foreign vessels in distress, the right to access ports. The UK-OMAN Treaty, 1891 and the Black Sea Fisheries Convention, 1959 provide for unconditional access to ships in distress.

Hence, it is clearly established that under customary international law, there exists a duty on coastal states to give access to a ship in distress. Now, the state practices differ on the criteria to decide the 'necessity'. In *Canada v.*

Lindén, *Places of Refuge for Ships: Emerging Environmental Concerns of a Maritime Custom*, Martinus Nijhoff Publishers (2006), p.290

¹²² See, R. R. Churchill and A. V. Lowe, *Law of the Sea* 3rd Ed., Manchester University Press, Manchester (1999), p.61–63; G. Schwarzenberger and E. D. Brown, *A Manual on International Law*, 6th Ed., Professional Books Ltd., Oxon (1976), p. 83–84; C. John Colombos, *The International Law of the Sea* 6th Rev. Ed. Longman, London (1967), p.329–330; D. P. O'Connell, *The International Law of the Sea* Vol. 2, I. A. Shearer ed., Clarendon Press, Oxford (1984), p. 853–858; I. Oppenheim, *International Law* Vol. 2, H. Lauterpacht ed., Longman, London (1948), p.479; Philip C. Jessup, *The Law of Territorial Waters and Maritime Jurisdiction* Jennings Co., New York (1927), p 194–208; Robert Jennings and Arthur Watts, *Oppenheim's International Law* 9th Ed., Vol. 1, Longman, London (1992), p.624

¹²³ The US-Spain, 1795, art.8, cited in O'Connell, *Supra* n.122 at p.854

¹²⁴ The Treaty of Amity, Commerce and Navigation between His Britannick Majesty and the United States of America, 1794, art.3

*Natalie*¹²⁵, purchasing of ice for a fishing vessel was not considered as a necessity. Similarly, in *Cashin v. Canada*¹²⁶, entering a port under duress was not considered to be distress. In *M.V. Kitano's Case*¹²⁷, the vessel was 15 nautical miles south of Halifax Harbour when a fire broke out. It was laden with containers carrying cigarettes and machinery. The port authorities denied access claiming that the vessel carried dangerous goods. In the case of *M.V. Toledo*¹²⁸, the Irish vessel was carrying potash and was on its journey from Canada to Denmark. It encountered heavy weather, access was denied to British Waters and finally the ship was beached on to the shores of the U.K. It was eventually towed out and scuttled. The court rejected the claim against the Irish Government and held:

“...the right of a foreign vessel in serious distress to the benefit of a safe haven in the waters of an adjacent state is primarily humanitarian rather than economic. It is not an absolute right. If safety of life is not a factor, then there is a widely recognised practice among maritime states, to have proper regard to their own interests and those of their citizens in deciding whether to or not to accede to such request”.

In *Long Lin's Case*¹²⁹, the Dutch Court held that the gravity of ship's situation should be balanced against the threat that it offers to coastal state, when deciding whether to or not to give access.

¹²⁵ *Canada (Attorney- General) v. Natalie. S* (1932) EX.C.R.155

¹²⁶ (1935) EX.C.R 103.52

¹²⁷ Cited in Aldo E. Chircop & O. Linden, op.cit.121

¹²⁸ *ACT Shipping (OTE) Ltd. v. Minister for the Marine & Attorney General, Ireland (The M.V. Toledo)* [1995] 2 Irish Law Reports Monthly.30

¹²⁹ *Nederlands Juristenblad* (1995), No. 23, at 299. 74 G, (1995), Cited in Aldo E. Chircop & O. Linden, op.cit.127, Ch.10

Hence, the modern state practices suggest that there is no duty on the coastal state to give access, if human life is not involved. International Maritime Organization has been trying to codify the law on places of refuge. Resolutions of the IMO prescribe code of conduct for coastal states and ship owners in cases of seeking place of refuge and Maritime Assistance Service in coastal states¹³⁰.

The law on places of refuge also requires a harmonious development. The rights of coastal and port states need to be protected. At the same time these states also have a duty to assist the ships in calamity by defining specific salvage laws. With the development of international law on port state jurisdiction and port state control, the coastal states do have a duty to provide, better contingency planning, risk assessment methods and supporting infrastructure facilities for those vessels which are in peril.

American Practice of Regulating Access to Foreign Vessels

The American Restatement states that ‘right to access to foreign port’ is reflective of customary law and that ‘in general, maritime ports are open to foreign ships on conditions of reciprocity’¹³¹. It also asserts that a state may deny access, ‘temporarily’ and in ‘exceptional cases’, for imperative reasons, such as security of nation and public health.

The U.S Ports and Waterways Safety Act¹³² and the Regulations under the Deep Water Ports Act, 1974¹³³ vests with the United States Government the power to deny entry to foreign vessels. Under the Regulation¹³⁴, there are a number of cases when the U.S had denied access to its ports even in the

¹³⁰ The IMO, Resolution A. 949(23), Guidelines on Places of Refuge for Ships in Need of Assistance, 2003 and Resolution A. 950(23), Guidelines on Maritime Assistance, 2003

¹³¹ Restatement III of the Foreign Relations Law of the United States, 1987

¹³² 46 USC 391.a (1972)

¹³³ USC 1501-24 (1974)

¹³⁴ The Deep Water Ports Act, 1974, reg. 19(c)

absence of an agreement. For example, in the *Khedivial Line SAE v. Seafarers International Union*¹³⁵, the court opined:

“Except in a situation involving force majeure, a licensee of a deep water port shall not permit a vessel, registered in or flying the flag of a foreign state, to call at, or otherwise utilize a deep water port”.

In addition to this, even in the absence of specific regulations, the U.S Coast guard had denied access to foreign vessels on the ground of national security under the Special Interest Vessel Program¹³⁶. Hence, it is to be understood that American Jurisprudence on regulating access to vessels is a clear depiction of the country’s unilateral enforcement measures.

Generally, the port state’s power of prescriptive restrictions on equipment, design, manning and construction of vessels is limited under international law. Any contravention is considered as an ‘abuse of right’ by many scholars¹³⁷.

Yet, the American law prescribes construction design equipment and manning¹³⁸ standards for entry into that country’s ports. In *Stevens v. Premier Cruises Inc.*,¹³⁹ the U.S circuit Court held that the construction and design of the cruise ship has to comply with the U.S. Disabilities Act¹⁴⁰. Recently, a new legislation specifying the design, equipment, manning and construction of cruise vessels was enacted in U.S.A. The Cruise Vessel Security and Safety Act 2010,

¹³⁵ 278 F.2d 49, 52 (1960)

¹³⁶ Cited in de la Fayette, *Supra* n.98, at p.8.

¹³⁷ The UNCLOS III, art.21(2); See, Erik Jaap Molenaar, *Competing Norms in the Marine Environmental Protection- Focus on ship safety and Pollution Prevention*, Henrik Ringbom ed., Kluwer Law International, The Hague (1997), pp.208-211

¹³⁸ Here in after to be referred to as the CDEM Standards

¹³⁹ 215 F.3d 1237 (2000)

¹⁴⁰ 46 U.S.C.A 3703a (1996)

imposes substantial requirements on such ships that carry over 250 passengers on international voyages which call at any US port. They concern design and construction, medical facilities, passenger and crew information, training and measures to report and combat crime. Non-compliance of any requirement can result in denial of entry to US ports and imposition for of penalties¹⁴¹. All cruise ships must meet certain design and construction standards and should maintain log book which may be inspected by port state control officers at the U.S. ports.

In the Shrimp/Turtle dispute¹⁴², the GATT Appellate Body had supported the United States decision to inflict trade embargo over shrimps imported from countries not implementing the Turtle Excluder Device. Background of the case is that, the United States prohibited the importation of any shrimp harvested using commercial fishing technologies that might harm sea turtles, unless the exporting country is certified by the U.S. administration as having a regulatory program to prevent incidental turtle deaths comparable to that of the United States or is certified as having a fishing environment that does not pose risks to sea turtles from shrimping. The Third world countries including India considered this as an assault over their national sovereignty and the right to free trade, whereas the U.S. based its argument on Article XX¹⁴³ of the GATT.

The advantages of double hull requirement for oil-tankers were a highly debated issue until recent past. The Americans were the first to give this

¹⁴¹ Civil penalties up to \$50,000 per violation and criminal penalties up to \$250,000 and/or one year's imprisonment.

¹⁴² *India etc. v. United States*, WTO case Nos. 58 (and 61), Ruling adopted on 6 November 1998, See, http://www.wto.org/english/tratop_e/envir_e/edis08_e.htm, last accessed in December 2013

¹⁴³ Article XX of the GATT provides exceptions for measures that are "necessary" to protect human and animal life and health and that are "in relation to" the "conservation of exhaustible natural resources"

requirement a legislative status under the OPA¹⁴⁴ and the Federal Water Pollution Control Act¹⁴⁵ even before its inclusion under MARPOL amendments.

Chinese Practice on Regulating Access to Foreign Vessels

China's traditional approach to territorial sovereignty was imperialistic. From 1976, China has been following economic reforms and 'open door policy'. Today, the country has emerged as a maritime giant extensively legislating on shipping keeping in tune with the international regime. Of these, the Law on the Territorial Sea and Contiguous Zone, 1992 establishes the territorial sea limits of China to 12 nautical miles¹⁴⁶. Merchant ships enjoy complete right of innocent passage through China's territorial sea but foreign warships require prior permission. In order to conduct marine scientific research, marine operations or such other activities in China's territorial limits, any foreign institution, international organization or individual would require approval and compliance of Chinese laws and regulations¹⁴⁷. In cases of violations, the law empowers the authorities the right to hot pursuit¹⁴⁸. This legislation is a general declaration of sovereignty over the traditional maritime zones of China as per the international law.

One step ahead, China has established a typical zone, 'coastal waters' or 'jurisdictional waters' which includes ports along the sea coast, internal waters,

¹⁴⁴ The Oil Pollution Act, 1990, 46 U.S.C.A 3703a (1996)

¹⁴⁵ 33 U.S.C 1321(b) (1) (2001). But the OPA does not define a 'double hull' but leaves it for the discretion of U.S Coast Guard. IMO issues technical regulations based upon the study of working groups but leaves the discretion member nations to formulate legal ruminations.

¹⁴⁶ Hereinafter to be referred to as nm

¹⁴⁷ The Law on the Territorial Sea and Contiguous Zone, 1992, art.11

¹⁴⁸ *Id.*, art.14

territorial sea and other water areas under China's jurisdiction¹⁴⁹. The major legislations controlling vessel movements in China's Jurisdictional waters are the Regulations Governing Supervision and Control of Foreign Vessels, 1979 and the Law of Maritime Traffic Safety, 1983.

Accordingly, foreign vessels have to obey Chinese laws and regulations in ports and should not be acting against national security or general interests of the country. The law also makes strict compliance of regulations governing straits, internal waterways, and water bodies used for navigation¹⁵⁰. The Harbour Superintendence Administration can detain the foreign vessel, stop it from sailing, and ask it to change the route or return to the port for violations of Chinese laws and regulations, marine casualties, failure to pay port dues and securities¹⁵¹.

One week before entering the port, the vessel's port agent has to submit required forms for approval and compulsory intimation should be given 24 hours prior to its arrival in port. The vessel should also comply with the Compulsory Pilotage Regulation and the Law on Maritime Traffic Safety, 1983, the Regulations on Management of Maritime Navigational Notices, 1992 and the Provisions on Safety and Supervision of the Vessel Communication Management System, 1997. After entering the port, the foreign vessel should at the earliest submit the entry report, ship's papers and documents. There should not be any arms and ammunitions on board, if at all anything is there, it has to be sealed up. Emergency signals should be used only when the necessity demands. Water sports, fishing, shooting and fireworks are strictly prohibited. All orders of the Harbour Superintendence Administration regarding safety and

¹⁴⁹ The Law on Maritime Traffic Safety, 1983, art.50, *Collection of the Sea Laws and Regulations of the People's Republic of China*, Department of Ocean Management and Monitoring, Ocean Press, Beijing (1991), p.248

¹⁵⁰ The Regulations on Supervision and Control of Foreign Vessels, 1979, art.9

¹⁵¹ *Id.*, art.8

security of the port have to be complied immediately¹⁵². The Law on Marine Environment Protection prohibits transfer of hazardous wastes in China's jurisdictional waters.¹⁵³

The Regulations Concerning Navigational Marks, 1995 prescribe vessel traffic control systems and on any occasion of damage to navigational marks or traffic signals, report should be given to Harbour Superintendence Administration at the earliest.

All foreign vessels should comply with regulations relating to marine environmental protection. Deliberate discharges of oil, oily mixtures or harmful pollutants are strictly prohibited within the port area and coastal waters. In cases of accidental discharge, the facts should be reported in the oil book and it has to be furnished to the Harbour Superintendence Administration. China also has regulations concerning the Prevention of Pollution of Sea Areas by Vessels, 1985.

In order to combat the catastrophic effects of maritime accidents, China has legislated on the topic. Important legislations in this regard are the Regulations Governing Investigation and Settlement of Maritime Traffic Accidents, 1990, the Regulations on the Inspection of Ships and Offshore Installations, 1993 and the Provisions on Safety Inspection of Vessels, 1997.

The enforcement agency for these regulations is the Chinese Maritime Bureau working under the Ministry of Communications. Almost twenty local maritime branches work under the ministry¹⁵⁴. The functions of the Bureau include implementation of the Marine Traffic Regulations by foreign ships, to authorize entry and departure of foreign vessels in ports, to facilitate

¹⁵² *Id.*, art.22

¹⁵³ *Id.*, art.39

¹⁵⁴ Cited in Zou-Keyuan, *China's Marine Legal System and the Law of the Sea*, Brill/Martinus Nijhoff, Publication on Ocean Development, Vol.48 (2005), p. 35

compulsory pilotage, to maintain traffic order and safety, and to investigate and settle disputes arising from marine accidents.

Indian Law on Regulating Access to Ships

The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976¹⁵⁵ establishes India's sovereignty over territorial waters. The Government of India under a notification had declared waters within the baseline, around the Indian coastal line, including the Lakshadweep and Andaman and Nicobar islands as "internal waters"¹⁵⁶. The Ministry of Shipping in another notification had renamed the zone as "inland waters" thereby extending the provisions of the Inland Vessels Act, 1917 and the provisions of Merchant Shipping Act, 1958 to the same zone¹⁵⁷. Hence, the jurisdictions of the Inland Water Authority of India, State Maritime Boards and the Director General of Shipping will be applicable in the ports to ensure safety in shipping. This is a superior piece of legislation when compared to that of other countries as it clearly establishes 'sovereignty' and not 'jurisdiction' over the inland waters¹⁵⁸. Whether India has fully exploited the scope of this Act for the conservation of maritime ports and marine resources is a substantial issue.

The Central government can upon the permission from both houses of the parliament, change the limits of the territorial waters in accordance with

¹⁵⁵ Here in after to be referred to as the MZA 1976

¹⁵⁶ The Ministry of External Affairs, Government of India, Notification No. SO 1197 (E) , dated 1st September 2009, on baseline system in India

¹⁵⁷ The Ministry of Shipping, Government of India, D.G. Shipping Order No. 19, 2013, dated 16th September 2013

¹⁵⁸ The MZA, 1976, Section 3(1) and (2) reads, "The sovereignty of India shall extend to the territorial waters of India and to seabed and subsoil underlying and airspace, over such waters. The limit of the territorial waters is the line every point of which is at a distance of twelve nautical miles from the nearest point of the appropriate baseline.

international law and state practices¹⁵⁹. The Act thus confers with the Union of India sovereignty to prescribe laws for the territorial waters and to alter its limits. The Act also authorizes to extend the jurisdictional limits by means of official notification in order to facilitate freedom of navigation, which is not prejudicial to India's interests. By means of the notification of the Ministry of Home Affairs, the extra territorial criminal jurisdiction of India shall extend up to the Exclusive Economic Zone¹⁶⁰. India's coastal state jurisdiction can be extended for criminal offences happening beyond the territorial waters. Hence, the sovereignty of India to prescribe laws for preserving the coasts can be extended beyond the territorial waters.

Under the Act, all foreign ships except warships and submarines enjoy innocent passage through the territorial waters, unless such passage is prejudicial to the peace, good order or security of the country¹⁶¹. Foreign warships and submarines may enter or pass through the territorial waters of India only after giving prior notice to the Central government. All submarines and underwater vessels should navigate only through the surface of the territorial sea and should show their flag during the passage¹⁶².

The Act gives the central government sovereignty to deny access to all or any class of vessel, if the voyage is a threat to the peace, good order or security of India¹⁶³. Under the Act, 'any person committing an offence under this Act or any rules made thereunder or under any of the enactments extended under this Act or under the rules made thereunder may be tried for the offence in any place in which he may be found or in such other place as the Central

¹⁵⁹ *Id.*, s.4

¹⁶⁰ Ministry of Home Affairs, Government of India, Notification No. SO 671 (E), dated 27th August 1981

¹⁶¹ The MZA, 1976, s.4

¹⁶² *Id.*, s.4(2)

¹⁶³ *Id.*, s.4(3)

Government may, by general or special order, published in the Official Gazette, direct in this behalf¹⁶⁴. A combined reading of the provisions suggests that India's sovereignty is not strictly confined to territorial limits and access may be denied to any class of vessel, if the voyage is a threat to peace, security and good order of the country.

Whether a coastal state is entitled to exercise criminal enforcement jurisdiction over foreign ships beyond the territorial waters is highly controversial. The dynamism in shipping operations like the emergence of super tankers, cruise lines carrying over 3000 people of various nationalities passing very near to the coasts, increased mining and economic activities in the Exclusive Economic Zone, erection of offshore oil platforms and defence activities supports the coastal state's concerns on the claims over the adjacent waters and unilateral prescriptions for the zone. Many countries have thus extended criminal jurisdiction beyond the territorial waters for protecting their interests. Often, their claims are considered legitimate under the protective and passive personality principles of the international law.

For example, the passive personality principle has been used by Australia to provide justice to Australian victims of crime, regardless of the place of occurrence¹⁶⁵. The American and the French laws have corresponding provisions.

The United States of America, the United Kingdom, and the European community of nations have made radical changes to their laws regulating access to ports¹⁶⁶. Similarly, if the events occurring on high seas had any 'effects' on the vessel of another flag state or on the territory of a state, no rule in international law would prevent those states from initiating legal

¹⁶⁴ *Id.*, s.13

¹⁶⁵ The Australian Criminal Code Act, 1995

¹⁶⁶ The U.S Ports and Waterways Safety Act, 1972 and the Regulations under the Deep Water Ports Act, 1974 vests with the United States Government the power to deny entry to foreign vessels

proceedings against the transgressing vessels¹⁶⁷. No country other than the United States would have applied this ‘vital interest theory’ or ‘effects doctrine’, very intensely to secure its national interests¹⁶⁸.

The Constitution of India permits extraterritorial application of laws, if a reasonable nexus is established between the subject matter of the law and the Indian coast¹⁶⁹.

Hence, if the ‘effects’ of the maritime casualty is felt upon the Indian coast, the extra territorial application of criminal jurisdiction of India as a coastal state may be invoked legitimately under the MZA 1976 and other domestic shipping laws. The Act is therefore a superior piece of legislation conferring sovereignty and extension of the Union’s sovereign rights up to the EEZ to protect national interests.

The MZA imposes three years rigorous imprisonment for its violation¹⁷⁰. The Act requires the enforcement authority to seek prior consent from the Central Government before taking action against a transgressing vessel¹⁷¹.

The Central Government is the authority to frame rules for the enforcement of the provisions in the Act. Seven rules have been so far framed

¹⁶⁷ *The Lotus* (1927), PCIJ, Ser.A, No.10, P.25

¹⁶⁸ In *U.S. v. Aluminium Co. of America*, 148 F.2d 416 (1945), the American court has made the classic statement: “any state may impose liabilities, even upon persons not within its allegiance, for conduct outside its borders that has consequences within its borders which the state reprehends”

¹⁶⁹ The Constitution of India, art.245(2)

¹⁷⁰ The MZA, 1976, s.11

¹⁷¹ *Id.*, s.14 reads that, “No prosecution shall be instituted against any person in respect of any offence under this Act or the rules made there under without the previous sanction of the Central Government or such officer or authority as may be authorized by that Government by order in writing in this behalf.”

under this Act, of which two are pertaining to ‘designated areas’¹⁷². Hardly are there any reported cases under the MZA 1976, where India has exercised protective jurisdiction to preserve its ports.

Legal Constraints for India’s Port State Enforcement

In spite of the wide powers to restrict the entry of polluting vessels, many of such vessels find easy access to Indian ports and navigate freely through the territorial waters of India. The reason is that the MZA, 1976 and the rules thereunder set no clear criteria for denying the access. Hence, what constitutes a threat to peace, good order or security of India is often a political consideration rather than a question of law.

This legal crisis is quite often used by the Ship breaking industry for illegal benefits. This is a major industry giving employment opportunities to many millions and generating immense revenue for the governments. Yet, it operates under substandard conditions in India¹⁷³. If, the provisions of MZA, 1976 had clearly laid down the criteria for denying access to ports, India would not have become the junkyard of “ghost ships¹⁷⁴” of the western world. Consequently, judicial approaches on whether to allow access for these ships to Indian ports remain conflicting. In September 2012, the notorious *Exxon Valdez*¹⁷⁵, which had caused catastrophic effects on the U.S. Coasts in 1989 and

¹⁷² These rules declared oil platforms, including the ONGC Oil platforms near Mumbai as restricted zones for the entry of foreign merchant ships

¹⁷³ Tony George Puthucherril, *From Ship Breaking to Sustainable Ship Recycling: Evolution of a Legal Regime*, Brill/ Martinus Nijhoff, Leiden (2010)

¹⁷⁴ Ghost Ships are very old and vulnerable ships to breaking up due to their fragile nature, usually containing huge amount of toxins. Viola Blayre Campbel, Ghost Ships and Recycling Pollution: Sending America’s Trash to Europe, 12*Tulsa Journal of Comparative and International law*1 (2004)

¹⁷⁵ On March 24, 1989, the 987-foot tank vessel *Exxon Valdez* struck Bligh Reef in Prince William Sound, Alaska, causing the largest oil spill in the history of United States. The oil slick has spread over 3,000 square miles and onto over 350 miles of beaches in

had changed its name five times since then, the latest being ‘Oriental Nicety’ was allowed to be dismantled in Alang against the Gujarat Maritime Board’s orders. An NGO named Toxic Waste Alliance points out that since 1982 almost 5924 ships were given entry to Alang for dismantling; many of them imported without de- toxification in violation of the Basel convention requirements.

For example, in *the Clemenceau case*¹⁷⁶, the French warship at the time of its phasing out had 130 tons of asbestos and other toxic wastes on board. It was not given access to ports worldwide¹⁷⁷. In December 2005, it left for Alang, in India for ship breaking. In January 2006, owing to huge public appraisal and media attention, a petition came up before the Supreme Court of India and the Court had issued a temporary order prohibiting the vessel’s entry to the Alang port. The court had expressed a strong view to strike a balance between economic development and environmental protection.

In *the Blue Lady Case*¹⁷⁸, the major issue in question was whether Alang had technological sophistication for safe ship dismantling. Ignoring the opinion of the High Level Expert Committee that Alang never had the technology sophistication to dismantle vessels in an eco-friendly manner, the Supreme Court of India ordered for the entry of the vessel into Alang and allowed its dismantling. According to court, sustainable development also means balancing ‘the priorities of economic development and environmental protection’.

Prince William Sound, one of the most pristine and magnificent natural areas in the country

¹⁷⁶ *Research Foundation for Science v. Union of India*, 2007 (8) S.C.C 583

¹⁷⁷ The green peace fact sheet, Retrieved from [http:// www.greenpeace.org](http://www.greenpeace.org), last accessed in March 2014

¹⁷⁸ *See Research Foundation for Science Technology and Natural Resource Policy v. Union of India and Others*, A.I.R 2007 SC 3118

Defects in the Indian Admiralty Law

The Indian legislature has not taken notice of the day to day dynamism in maritime operations and the modernization of admiralty jurisdiction in other countries. The British Statute (Application to India) Repeal Act, 1960 abolished over 250 British statutes but the Admiralty law remained untouched. The Government of India, following the Law Commission Reports¹⁷⁹, the Parveen Singh Committee¹⁸⁰ and pressures from all stake holders in the industry had introduced the Admiralty Bill in 2005. No concrete efforts towards consolidating the admiralty law in India had happened after that. As such there are serious vacuums and ambiguities in admiralty law especially on adjudication of maritime claims as to safety and pollution control in ports, wreck removal, salvage, planning, preparedness and response in case of maritime casualties, the Coast Guard's powers to implement the contingency planning, surveillance and monitoring of vessels, civil liability in case of oil spills and giving access to vessels in distress etc.

Yet another critical issue is that India is not having a consolidated law on admiralty jurisdiction. The admiralty jurisdiction in India is still governed by a few colonial legislations; the Admiralty Court Act, 1861, the Colonial Courts of Admiralty Act, 1890 and the Colonial Courts of Admiralty (India) Act, 1891. It can be said that the Admiralty jurisdiction of India is a consolidated effect of the Articles 372, 225, 226 & 227 of the Constitution of India, section 443 of the Merchant Shipping Act and the decision in *M.V.*

¹⁷⁹ Thirteenth Law Commission of India, in its 151st report dated August 1995, had expressed the view that "...legislation in admiralty law was imperative; both as a matter of prestige and a necessity."

¹⁸⁰ In 1986, the Ministry of Surface Transport had appointed the Parveen Singh committee under the chairmanship of the Director General shipping, Sri. Parveen Singh, to study about the prospective changes that are needed in admiralty law in India. The committee had recommended for the consolidation of Admiralty Courts Act

*Elizabeth's case*¹⁸¹. In that case, the Supreme Court of India had expressed its deep anguish over application of colonial laws to Indian cases of admiralty.

The vagueness in the substantive law has created a situation where judges are forced to rely on procedural rules. This has caused serious deterioration in the standards of adjudication of maritime disputes in India. A handful of shipping legislations confer civil and criminal jurisdiction in admiralty matters to the Magistrate courts. This has created issues of overlapping jurisdictions. Ultimately, port state jurisdiction and the enforcement regime of Indian administration have become all bark and no bite. *The Enrica Lexie*¹⁸² is the latest case on this point.

Indian Practice on Sovereign Immunity and Other Limitations Set by International Law

“A sovereign prince or other person representing an independent state is not liable to be sued in the courts of the land unless he submits to its jurisdiction”¹⁸³. This is an obsolete British common law principle. Since, the Indian government has not reacted and codified the ruling of the Supreme Court; determination of sovereign immunity is still done on a case to case basis. In a series of cases, the doctrine of sovereign immunity was applied taking into consideration whether the act involved was sovereign or non-sovereign¹⁸⁴. Later

¹⁸¹ *M.V. Elisabeth and Ors. v. Harwan Investment and Trading*, 1993 A.I.R 1014, 1992 SCR (1)1003

¹⁸² *Republic of Italy v. Republic of India.*, Writ Petition (Civil) No 135 of 2012, The Supreme Court of India(decision pending); *Massimilano Latorre v. Union of India* (2012) 252 KLR 794;*Republic of Italy thr. Ambassador v. Union of India (UOI)*, Special Leave Petition (Civil) No. 135 of 2012, reported in Manupatra.

¹⁸³ *The Christina* (1938) AC 483

¹⁸⁴ *P & O Steam Navigation Co.v. Secretary of State* (1861) 5 Bom .H.C. App. 1; *State of Rajasthan v. Vidyawati*, A.I.R 1962 SC 933; *Union of India v. Smt. Jasso*, A.I.R 1962 Punj. 315 (FB); *Baxi Amrik Singh v. Union of India*, 1972 Punj. L.R. 1; *Thangarajan v. Union of India*, A.I.R1975 Mad. 32; *Mrs. Pushpa v. State of Jammu & Kashmir*, 1977

on this dichotomy of sovereign or non-sovereign functions got a major twist. In a majority of cases, the governmental function was interpreted as non-sovereign¹⁸⁵ and the government was held liable for torts. In certain other cases, the doctrine was ignored completely and the state was held liable¹⁸⁶.

The principle of sovereign immunity is engrossed in the Code of Civil Procedure, 1908¹⁸⁷.

In *Mirza Ali Akbar Kashani v. The United Arab Republic*¹⁸⁸, the Apex Court had held,

“...The effect of the provisions of section 86(1) appears to be that it makes a statutory provision covering a field which would otherwise be covered by the doctrine of immunity under International Law. It is not disputed

ACJ 375; *Union of India v. Kumari Neelam*, A.I.R 1980 NOC 60 (M.P); *Union of India v. Hardeo Dutta Tirtharam*, A.I.R 1986 Bom. 350

¹⁸⁵ The Motor Vehicle's Act 1988, s.166, exempts the application of the doctrine of sovereign immunity in the cases coming under it. See, *N. Nagendra Rao & Co. v. State of A.P.*, A.I.R 1994 SC 2663; *Gurbachan Kaur v. Union of India*, 2002 ACJ 666; *State of Rajasthan v. Smt. Shekhu*, 2006 ACJ 1644; *Union of India v. Rasmuni Devi*, 2008 (2) JKJ 249; Similarly no application of the doctrine of sovereign immunity in cases falling under violation of Article 21 of the Constitution, where there is a threat or loss of life or deprivation of liberty caused by negligence. See, *Challa Ramkonda Reddy v. State of A.P.*, A.I.R 1989 A.P 235

¹⁸⁶ *Saheli, a Women's Resources Centre v. Commissioner of Police, Delhi*, A.I.R 1990 (SC) 513; *Common Cause, A Registered Society v. Union of India*, A.I.R 1999 SC 2979

¹⁸⁷ The Civil Procedure Code, 1908, Section 86(1), reads, “No [* * *] foreign State may be sued in any Court otherwise competent to try the suit except with consent of the Central Government certified in writing by a Secretary to that Government

Provided that a person may, as a tenant of immovable property sue without such consent as aforesaid [a foreign State] from whom he holds or claims to hold the property”.

¹⁸⁸ MANU/SC/0050/1965, Para 30

that every sovereign state is competent to make its own laws in relation to the rights and liabilities of foreign States to be sued within its own municipal courts. Just as an independent sovereign state may statutorily provide for its own rights and liabilities to sue and be sued, so can it provide for the rights and liabilities of foreign states to sue and be sued in its municipal courts. That being so, it would be legitimate to hold that the effect of section 86(1) is to modify to a certain extent the doctrine of immunity recognised by International Law. This section provides that foreign states can be sued within the municipal courts of India with the consent of the Central Government and when such consent is granted as required by section 86(1), it would not be open to a foreign state to rely on the doctrine of immunity under International Law, because the municipal courts in India would be bound by the statutory provisions, such as those contained in the Code of Civil Procedure. In substance, section 86(1) is not merely procedural; it is in a sense a counter-part of section 84. Whereas section 84 confers a right on a foreign State to sue, section 86(1) in substance imposes a liability on foreign States to be sued, though this liability is circumscribed and safeguarded by the limitations prescribed by it ...”

This restrictive approach was followed in several subsequent cases¹⁸⁹, where in sovereign immunity with respect to a commercial transaction by foreign governments were not allowed by the apex court and High Courts in India.

In India, absolute sovereign immunity is still a presumption; since the foreign sovereign can be sued in the specified circumstances with the consent of the Central Government. In the controversial case the *Enrica Lexie*¹⁹⁰, the High Court of Kerala had held that "...the extent of immunity to forces would depend upon the circumstances under which they are admitted by the territorial state and upon any agreement between India and Italy on the terms and conditions as to the entry of forces into the coastal territory"¹⁹¹. "[T]here might be exceptions to the rule on immunity *ratione materiae*, where an international agreement constituted a *lex specialis* for certain crimes or in respect of criminal proceedings for acts committed on the territory of the forum State"¹⁹². India has signed but not ratified the U.N. Convention on Jurisdictional Immunities¹⁹³. There was also no treaty existing as to free entry of forces into coastal waters between India and Italy, which would give a qualified exemption for the marines from India's criminal justice system. Therefore, the court held that the entry of marines into India's

¹⁸⁹ *The Veb Deutfracht Seereederei Rostock (D.S.R. Lines) a Department of the German Democratic Republic v. New Central Jute Mills Co. Ltd. and Another* (1994) 1 S.C.C 282; *Ethiopian Airlines v. Ganesh Narain Saboo*, (2011) 8 S.C.C 539; *Rahimtoola v. H.E.H. The Nizam of Hyderabad*, (1957) 3 All E.R. 441; *Trendtex Trading Corporation Ltd. v. Central Bank of Nigeria*, (1977) 1 All E.R. 881; *Kenya Airways v. Jinibai B. Kheshwala*, AIR 1998 Bombay 287

¹⁹⁰ *Supra* n.181

¹⁹¹ *Id.*, Para.82

¹⁹² Topical summary of the discussion held in the Sixth Committee of the General Assembly during its sixty-seventh session, prepared by the Secretariat, UN Doc A/CN.4/657, 18 January 2013, para. 35

¹⁹³ Status Retrieved from 28 http://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=III-13&chapter=3&lang=en., last accessed in December 2013

territorial waters was illegal and against the sovereignty of the country. Their merciless gun shots cannot be taken as an act in self-defence or an 'official act' or in defence of the ship. It was purely a 'private, illegal and criminal act, which may not be an act in sovereign capacity'. Thereby, the plea of sovereign immunity for the Marines by the Republic of Italy was rejected. Thereafter the Supreme Court had also reiterated the same views in the appeal. The judgment underscores the recognition of objective territoriality principle, passive personality and protective principles under the international law and also the restrictions imposed there under.

In the United States of America and other developed countries, the admiralty Jurisdiction is well developed and is actively supported by criminal laws of the land. This is not the case in India. Under the Merchant Shipping Act 1958¹⁹⁴, a magistrate is required to make only a formal enquiry into a maritime casualty and forward the case to the proper court. In the *Enrica Lexie* case, the crime was primarily charged under the Indian Penal Code. Had the offence been charged also under the admiralty law, the families of the deceased seamen could have claimed proper compensation? As long as the admiralty law is not consolidated and ambiguity continues, it will be very difficult to adjudicate such cases and fix liability under the civil liability regime. The government has failed to address to these issues.

Issues Regarding Giving Access to Ships in Distress

As per the provisions of the SAR Convention, 1979¹⁹⁵, when a maritime accident occurs, the rescue of persons in distress will be co-ordinated by a SAR agency on the shores. Wide co-operation is expected from coastal states on this behalf to save human lives. Although the right to seek place of refuge was well recognized under the International law- both customary and treaty¹⁹⁶, there was

¹⁹⁴ The Merchant Shipping Act, 1958, s.361

¹⁹⁵ The International Convention on Maritime Search and Rescue, 1979

¹⁹⁶ The SOLAS, 1974

no system covering search and rescue operations until the adoption of SAR Convention. Accordingly, world's ocean are divided into 13 SAR regions, up on which every country participating has got specific region to monitor. The provisions of the convention if implemented properly would give the coastal states early information as to maritime accidents. They can take preventive measures against pollution.

India is a signatory to the SAR Convention 1979. With effect from 1st February 2003, the Indian Coast Guard¹⁹⁷ has brought into supplementary ship Reporting system called the "Indian Ship Reporting System"¹⁹⁸. The search and rescue operations under this system are co-ordinated through the Maritime Rescue Co-Ordination Centre¹⁹⁹ at Mumbai. All Indian ships of 100 GRT or above and all foreign ships above 300 GRT are to participate and co-operate with this system when in transit through the Indian Search and Rescue Region²⁰⁰. All ships above 100 GRT irrespective of the flag carrying nuclear or hazardous cargo are also required to participate in this reporting system. All ships irrespective of the flag above 20 years are said to send the relevant report to INDSAR at ISRR. The format of the ship reporting shall be in accordance with IMO Resolution²⁰¹ and special edition of Indian notices to mariners²⁰².

¹⁹⁷ Here in after to be referred to as the ICG

¹⁹⁸ Herein after to be referred to as the INDSAR

¹⁹⁹ Hereinafter to be referred to as the MRCC

²⁰⁰ Herein after to be referred to as the ISRR. The Merchant Shipping Notice No. 7 of 2010, published under the MSA 1958. Section 355 of the Merchant Shipping Act, 1958 reads on the obligation and procedures to render assistance on receiving signal of distress

²⁰¹ The IMO resolution A.851 (20), General Principles for Ship Reporting Systems, 1997

²⁰² National Hydrographic Office, Special Edition of Indian Notices to Mariners, Edition Number 8.

With effect from 1st November 1986, the Indian Navy, in co-ordination with the D.G. Shipping has introduced an Indian Ship Position and Reporting System²⁰³ for the safety of vessels navigating through the Indian Ocean and the Arabian Sea. This is co-ordinated through the Indian Naval Communication Centres²⁰⁴ at Mumbai and Vishakapatnam. All Indian vessels above 100 GRT and all foreign vessels about 300 GRT are to send report to these agencies as to the position to ensure maritime safety.

Majority of Indian ports lack the infrastructural and response systems as designed under the international conventions. As a result, an Indian port of safe haven may be a distant dream for any vessel encountering distress in the coastal waters of the country. The safest option in the present situations in Indian port may be either to tow the vessel out from the port area or to deny the port entry.

Weak Port State Control Regime

India is a member of the Indian Ocean Memorandum of Understanding on Port State Control²⁰⁵. The Port State Control Officers²⁰⁶ inspect foreign ships in national ports to verify the compliance of international conventions on shipping.

In the year 2012, out of the total 5051 inspections carried out by the member states, India had done around 634, out of which 518 inspections were identified with deficiencies. The total number of detentions was just 119²⁰⁷.

The number of detentions is less primarily because of the weak enforcement of environmental regulations in ports. There is neither dedicated department nor sufficient officers for PSC. Its functioning is included under the Mercantile Marine Department which has several other duties to perform under its wing. So they are unable to effectively perform its role as PSC Authority.

²⁰³ Herein after to be referred to as the INSPIRES

²⁰⁴ Herein after to be referred to as the COMCENs

²⁰⁵ Herein after to be referred to as the IMOU

²⁰⁶ Herein after to be referred to as the PSCOs

²⁰⁷ The IMOU Annual report for the year 2012, Retrieved from www.imou.org., last accessed in March 2014

The far-reaching changes made in the international conventions on vessel safety and pollution control are merely repeated *verbatim* in the rules framed under the Merchant Shipping Act and by means of circulars issued by the Director General of Shipping in India. The Indian Ports Act, 1908 is obsolete and does not incorporate these changes into the port regulations. Considering the urgency and critical nature of the issue, the Indian Ports Bill 2011 is under consideration²⁰⁸. As such, the Indian standards of PSC are very mediocre and the inspections conducted by Indian PSCOs are definitely below the target specified under the international law. This has facilitated the hassle free entry of unseaworthy vessels and increased pollution incidents in Ports.

Segregation of Enforcement Powers on Various Ministries and Departments- Ambiguity as to the Powers of the Indian Coast Guard

In India, provisions to ensure sustainable shipping lay scattered in a handful of legislation making it difficult to co-ordinate the enforcement under a single agency, especially in cases of marine pollution. The Coast Guard Act²⁰⁹, authorizes the ICG, to ensure the security of maritime zones of India, which includes control of marine pollution. The Coast Guard has the responsibility to prevent and protect the marine environment of the country and ensure safety in territorial waters²¹⁰.

Under the provisions of the Indian Ports Act, 1908 and the Major Port Trust Act, 1963, the Port Trust acting through the Conservator of Ports has to ensure safety and pollution control within the Port area. The Conservator, Deputy Conservator and Harbour Master are to enforce rules framed under the Act. The Act empowers the above mentioned officers to deny port clearance unless the

²⁰⁸ No. PR-14019/14/20110-PG dated the 21/07/2011, See, <http://www.prsindia.org/uploads/media/draft/Draft%20Indian%20Ports%20Bill%202011.pdf>, Once enacted this new Act will replace the Indian Ports Act 1908 and the Major Port Trust Act 1963

²⁰⁹ The Indian Coast Guard Act, 1978, Ch. II, s.4

²¹⁰ *Id.*, s.14 (1) and (2)

charges for violation of these rules are levied²¹¹. Therefore, the above mentioned authorities can prescribe port entry conditions and refuse to grant port clearance for transgressing vessels. In addition to these measures, criminal prosecution can be made against master and owner of the vessel for violations of port rules.

At present the ICG is exercising its functional responsibilities such as surveillance, combating oil spills, central co- ordination of the National Oil Spill Disaster Contingency Plan²¹², inspection of vessels to ensure seaworthiness and detention of violators of anti-pollution provisions²¹³ only beyond the port limits²¹⁴. Hence, the Port conservator should get sufficient information from the ICG before taking any action against the violators. Unless this process is well co-ordinated and fast, timely detentions and control measures may not be effective. The Ministry of Environment and Forest also has functional responsibility to monitor and take remedial action in the event of marine pollution along the coastal side or beaches²¹⁵.

Omissions in clearly defining the powers of authorities have made the enforcement mechanism under the Act weak. For example, poaching by foreign fishing vessels in Indian waters is a common issue and the Act is totally inept when initiating criminal trial against offenders. It is not that poaching was not detected but in most cases, there was dilemma among enforcement agencies in fixing the authority so as to initiate proceedings against such vessels. Due to surveillance constraints and lacunae in legislation, not many cases are reported on violations of MZA. If at all, these prosecutions are against small 'Dhows', whose owners are never known and left to defend themselves. Thus, illegal fishing

²¹¹ The Indian Ports Act, 1908, s.43

²¹² Herein after to be referred to as the NOS-DCP plan

²¹³ The MSA, 1958, s.356(g)(1)

²¹⁴ The Allocation of Business Rules, 1961, Functional Responsibilities Allocated to Ministries/ Department as per Decision Taken at a Meeting of the Committee of Secretaries on 04 Nov 93, Retrieved from <http://www.indiancoastguard.nic.in/IndianCoastGuard/NOSDCP/Contingency%20Plan/DHQ%202.pdf>

²¹⁵ *Ibid*

became a prominent issue and it is necessary to enact a more comprehensive legislation to deal with it so as to protect India's maritime interests. Subsequently, the Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981²¹⁶ was enacted to resist illegal poaching by foreign fishing vessels.

The situations became even worse after the enactment of MZI, 1981. Often, violations of MZA were registered under the Indian Penal Code, Customs Act and the Passport Act. It created overlapping jurisdiction among the state police, customs and the coast guard. Thus, simultaneous proceedings were initiated under the Indian Penal Code, Customs Act and Indian Coast Guard Act respectively.

By clearly defining the role and hierarchy of enforcement agencies and by streamlining their activities under a central agency, i.e. the ICG, the enforcement regime could be made more efficient. The Indian Coast Guard Act should be revised so as to confer definite powers to ICG as the nodal agency to monitor, survey, enforce and punish the offenders contributing to pollution in the Indian waters instead of demarcating the same under different laws upon a handful of bureaucratic agencies.

Conclusions

The Maritime Policy of India aims at sustainable development of the shipping industry. The Indian admiralty law is not in pace with the dynamism in shipping operations. Unless, the law is consolidated and well defined, India's port state jurisdiction will not be effective and in tune with the international regime. The port state control should be made an independent arm of the port authority which can solely dedicate its manpower and resources to control and monitor the vessels calling at Indian waters thereby increasing its effectiveness. If the entry of inferior quality ships is not regulated judiciously, it may question the very existence of the ports and the trade and economic prospects of the country will be in turmoil.

²¹⁶ Herein after MZI, 1981

LEGAL CONTROL OF OPERATIONAL POLLUTION BY OIL AND OTHER CARGO

As shipping continues to dominate international transport¹, there are serious concerns about oil pollution from routine vessel operations². India depends heavily on oil and gas, which are imported by sea from the Persian Gulf region. The countries along the coasts of Indian Ocean link the broad conveyor belt of maritime commerce that runs between the Indian and Pacific oceans. It is estimated that over 60000 tankers pass every year in this route carrying oil and hazardous substances. The western coast of India is very close to this international oil route and many major ports are located here. Total traffic handled at all major Indian ports for the past seven years is estimated at 560.15 million tonnes and out this majority are tankers³. The figures submitted by the Indian Ports Association shows significant rise in performance indicators at all major ports⁴. It states,

“The cargo traffic of petroleum, oil & lubricants (POL), the largest commodity handled by major ports, is expected to grow by 4.1% in 2013-14. POL cargo volume is likely to

¹ UNCTAD, “Review of Maritime Transport”, (2010), p.8. In 2009, goods embarked at ports worldwide are estimated at 7.8 billion tons; maritime trade of crude oil amounted to 1.72 billion tons and international trade of petroleum products amounted to 924.6 million tons

² K. Gruneret.al, “A New Sensor System for Airborne Measurements of Maritime Pollution and of Hydrographic Parameters”,*24 Geo Journal* 103 (1991)

³ See, <http://shipping.nic.in/writereaddata/l892s/7yearsTRAFFIC-79318523.pdf>

⁴ For details of vessels handled and other performance indicators, see, <http://shipping.nic.in/writereaddata/l892s/portperf-97184221.pdf>

rise from 185.9 million tonnes in 2012-13 to 193.4 million tonnes. The growth is likely to be backed by an increase in crude oil imports and petroleum product exports”⁵.

The shipment of this huge volume of oil and energy fuels will certainly result in socio-economic and environmental impacts in major ports. For this reason, laws regulating and controlling vessel operations in ports should be preventive and effective to minimize pollution risks.

When it comes to operational discharges, oil pollution always arouses public outrages and media attention because of its visible impacts on the coastal environment⁶. “Oil discharged into the oceans contains enormous amounts of carcinogens and other toxic chemicals which may abruptly break the food chain by destroying the coastal phytoplankton. These discharges also immediately kill variety of waterfowls and mammals”⁷.

It is estimated that about seventy five per cent of oil released into the oceans by vessels is during routine operations⁸. As per the study conducted by Group of Experts on the Scientific Aspects of Marine Environmental Protection, out of the total operational discharges, oil spill from vessels make up 45 per cent of input of 4,57,000 tonnes per year⁹. Of this, oil tankers alone make up 10.3 per

⁵ Ishan Srivastava, “Cargo traffic at major ports to grow by 4% in 2013-14”, *The Times of India –India Business*, dated 28th September 2013, See, http://articles.timesofindia.indiatimes.com/2013-09-28/india-business/42480364_1_cargo-traffic-cargo-volume-major-ports, last accessed in December 2013

⁶ Paul S. Dempsey, “Compliance and Enforcement in Environmental Law? Oil Pollution of the Marine Environment by Ocean Vessels”, 6 *New York Journal of International Law & Business* 467 (1984)

⁷ *Ibid*

⁸ Bill Shaw, “The Global Environment: A Proposal to Eliminate Marine Oil Pollution”, 27 *Journal of Natural Resources and Life Sciences Education* 157 (1987)

⁹ Group of Experts on the Scientific Aspects of Marine Environmental Protection, “Estimates of Oil Entering the Marine Environment from Sea-based Activities”, Study

cent of the input by means of fuel oil sludge and oil mixed ballast water. The major vessel operations that contribute to oil spills in ports are cargo tank washings and ballast water discharging.

The International Maritime Organization¹⁰ prescribes technical specifications for the construction, design, equipment and manning of ships. It specifies regulations and guidelines on oil pollution preparedness, response and co-operation and establishes the Fund regime for the compensation of pollution victims.

The MARPOL regime has been proactive and quite successful in confronting the technical, functional and human-element issues behind oil pollution from bunkering, loading and discharging of cargo and other port operations. The figures of large scale oil spills, both from routine operations and accidents have come down considerably with the coming into force of MARPOL 73/78¹¹.

The efforts of IMO in this regard are noteworthy, when considering the significant growth of the global shipping industry; both the size of the world fleet and the distances that it travels. Yet there are incidents of intentional non-compliance by marine fleet who defy procedural requirements thereby causing pollution in foreign ports. The flouting of operational requirements are more at the ports of the developing countries like India, where the administrations is less alert and the enforcement regimes are of mediocre standards. Bearing in mind

report, (2007), available at <http://www.imo.org/knowledgecentre/shipsandshippingfactsandfigures/theroleandimportanceofinternationalshipping/documents/international%20shipping%20facts%20and%20figures%20%20july%202011.pdf>, last accessed in November 2013

¹⁰ Here in after to be referred to as the IMO

¹¹ For the period from 2000-2009, the number of large scale oil spills, above 700 tonnes has come down to an average of 3.3 spills. *See*, International Tanker Owners Pollution Federation Limited (ITOPF) Statistics, Adapted from the “International Shipping Facts and Figures, Information Resources on Trade, Safety, Security And Environment”, IMO Maritime Knowledge Centre

India's growing potential as a prominent maritime country and the size and types of vessels anchoring at its ports in huge numbers, it is high time that the administrations should give serious thoughts over potential threats of oil pollution from routine operations. What are the Indian standards of control in comparison to the international law and the legal issues and challenges faced by port administrations when implementing these standards in Indian ports? This question deserves a critical analysis.

Sources of Operational Oil Pollution

Substantial amount of oil may be discharged into port waters during tank washings. The ship's cargo tank has to be washed in order to remove dirty water before it returns to the port for next loading. Tanks need to be cleaned before a new cargo is loaded or when different cargoes need to be loaded in order to avoid sludge formation. The un-authorized discharge of this dirty water into the ports may cause serious environmental pollution.

Engine effluents may also cause serious damage to the port environment. Emptying of bilge¹² water is a routine process. Oil from machine spaces and usual leakages gets mixed up with the bilge water. The bilge water of oil tankers is typically contaminated with oil that leaks out of the cargo tanks. In addition, the water from water cooling and fireman systems, chain locker effluent, and other forms of engine effluents may pollute the port environment in the absence of adequate port reception facilities.

The release of fuel oil during bunkering may pollute the ports. Bunkering is identified as a crucial operation under the International Safety Management Code¹³. Bunker fuel commonly escapes through the air outlets of

¹² Merriam Webster Dictionary defines bilge as "that part of the underwater body of a ship between the flat of the bottom and the vertical topsides."

¹³ The International Convention for the Safety of Life at Sea, 1974 (SOLAS), Annex, ch. IX, Management for the Safe Operation of Ships, herein after to be referred to as the ISM Code

the bunker, tanks breaches, the save-alls and plugged scuppers. This causes escape of fuel oil from the vessel into the marine environment. With the adoption and entry into force of the International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001¹⁴, the ship owners will have to face even more stringent regulations fixing their liability compensation against oil spills during bunkering operations.

Cargo spills occur during routine operations in ports, especially when loading and unloading. It may occur due to improper handling of cargo or by equipment failures. *Albeit* being relatively small in volume, the petroleum and other chemical spills are the most common types. Spills of hazardous cargo like toxics or flammable materials are rare because the safety measures taken in handling Hazardous Noxious Substances¹⁵ impose due diligence and strict liability. Yet, it is estimated that there is six per cent chance of release of HNS into port waters from errors during loading and unloading¹⁶.

¹⁴ The International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 was adopted by IMO following a diplomatic conference held in March 2001. The Convention establishes a liability and compensation regime for spills of bunker oil. Ships over 1,000 gross tonnage registered in a State Party to the Convention will be required to carry on board a certificate certifying that the ship has insurance or other financial security, such as the guarantee of a bank or similar financial institution, to cover the liability of the registered owner for pollution damage in an amount equal to the limits of liability under the applicable national or international limitation regime. In all cases, this amount should not exceed an amount calculated in accordance with the Convention on Limitation of Liability for Maritime Claims, 1976, as amended, i.e. 1996 LLMC Protocol

¹⁵ Here in after to be referred to as the HNS

¹⁶ Accidental Water Pollution (Cedre) on HNS transportation accidents and the risks of chemical spills at sea for the period 1910-2009, Report of France's Centre of Documentation Research and Experimentation, See, <http://docs.imo.org/download.aspx?did=66722>, last accessed in November 2013

Tanker Design Specification in the Pre-MARPOL Regime

The Load on Top System

The Load-on-Top system¹⁷ is usually preferred for long voyages. The operational discharges are put to rest still, when the water gets settled in the bottom and oil on top. This oil is then filled in slop tanks. On reaching the port, new cargo is loaded either on the top of this oil in slop tank or it is emptied into the port reception facility. Since, time is required for the oil and water to get separated in this process; it is not preferable for short coastal voyages¹⁸.

The 1969 amendments to the OILPOL 54 adopted the LOT system. This system did not produce the desired levels of control because it required difficult operating techniques which the most experienced crew were also not been able to carry out without errors. Often, the crew were able to by-pass this system and to flout the rule in discharge operations.

Since, many ships were already fitted and were into voyage with this system, the convention has automatically adopted this technique without much discussion on its defects and solutions for curing it. When MARPOL and its protocol were under discussion, the United States of America started threatening to take unilateral imposition of Segregated Ballast Tanks¹⁹ and it was incorporated under the convention.

Segregated Ballast Tanks and Crude Oil Washings

The SBTs minimizes the risks of pollution as there is no chance of mixing up of cargo residues and ballast water. In the traditional method, cargo tanks were used to carry ballast water and there was high risk of oil getting mixed up with the ballast discharge. SBTs are separate tanks designed to carry

¹⁷ Herein after to be referred to as the LOT

¹⁸ Jeff B. Curtis, "Vessel-Source Oil Pollution and MARPOL 73/78: An International Success Story?" 15 *Environmental Law Review* 679 (1985).

¹⁹ Herein after to be referred to as the SBTs

ballast water. Cargo tanks may be used to carry ballast only in exceptional situations especially when the weather is unsafe and more ballast is required to ensure safety. SBT is an expensive option. Thus, cheaper substitutes like Dedicated Clean Ballast Tanks²⁰ are also allowed²¹. CBT means keeping separate cargo tanks for storing ballast water. But, in the case of CBTs, using the same pipelines and pumping arrangements may again offer potential threats of mixing up of cargo with ballast water.

Crude Oil Washings

COW is a procedure in which, oil, instead of water is used to clean the tank. The use of water is eliminated completely so that nothing remains to be released into the sea.

All these methods have merits and de-merits. Mostly, the success of each procedure may depend upon the efficiency of the crew and their diligence, the ship owner's willingness to adopt sophisticated and expensive cleaning operations and the availability of adequate port reception facilities.

Post- MARPOL Control Regime for Operational Pollution

The Stockholm Declaration of 1972²² and the establishment of the United Nations Environment Programme²³ were significant milestones in creating environmental consciousness among the littoral nations. The Stockholm Conference debated over the inadequacy of the OILPOL regime on control over operational pollution, especially the inefficiency of the LOT system.²⁴ Meanwhile, the Environmental Protection Agency²⁵ started working

²⁰ Here in after to be referred to as the CBTs

²¹ MARPOL 73/78, Annex I, reg. 13A

²² UNDoc.A/CONF.48/14/Rev.1,11 I.L.M.1416(1972)

²³ Herein after to be referred to as the UNEP

²⁴ A. Mendelsohn, "Ocean Pollution and the 1972 United Nations Conference on the Environment", 3 *Journal of Maritime Law and Commerce* 385 (1972)

in the U.S.A and it took steps to revise the control regime. The Americans made proposals for strict port state enforcement, the technical requirements such as SBTs and double hull²⁶ for tankers. The U.S.A started legislating vehemently on these technical specifications for tankers as well as non-tankers. These unilateral port entry requirements invited wide protest from the maritime community as its implementation was costly. The industry reluctantly accepted the expensive procedures for enabling smooth trade at the U.S ports. In the meantime, International Maritime Consultative Organization convened an International Conference on Marine Pollution in 1973. The conference adopted MARPOL 73²⁷. The OILPOL 54 regime was repealed by MARPOL 73 which dealt with all aspects of operational pollution²⁸. MARPOL incorporated all the existing provisions under the OILPOL regime and certain new requirements. For example, SBTs and oil separating systems were to be mandatorily installed in all ocean going ships. It took off the tanker- non-tanker differentiation.

²⁵ Herein after to be referred to as the EPA

²⁶ The double hull requirement mandated the construction of vessel with two protective layers encompassing the hull. Thus in cases of collisions, the chances of oil spill into the oceans would be very minimal

²⁷ The International Convention for the Prevention of Pollution from Ships (MARPOL) was adopted in 1973 by the IMO and covered pollution by oil, chemicals, harmful substances in packaged form, sewage and garbage. The Protocol of 1978 relating to the 1973 MARPOL was adopted at a Conference on Tanker Safety and Pollution Prevention in 1978 held in response to a series of tanker accidents in 1976-1977. As the 1973 MARPOL Convention had not yet entered into force, the 1978 MARPOL Protocol was absorbed into the parent Convention. The combined instrument is referred to as the International Convention for the Prevention of Marine Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78), and it entered into force in 1983. In 1997 a Protocol was adopted to add a new Annex VI

²⁸ MARPOL 73/78, art.9

The convention aims to eliminate completely ‘intentional pollution of marine environment by oil and other harmful substances and the minimization of accidental discharge of such substances’²⁹.

The convention is applicable to all types of vessels except warships, naval auxiliaries and other sovereign government ships³⁰. For the purposes of the convention, a ship includes, ‘a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, and submersibles, floating craft and fixed or floating platforms’³¹. It excludes pollution from dumping, legitimate scientific research for marine pollution control and exploration and exploitation of seabed and mineral resources from its purview³².

Under its five annexes, the MARPOL has technical specifications for control of operational pollution from oil, noxious liquid substances, chemical substances in the packaged form, sewage and garbage. The convention has two protocols exclusively dealing with reports on cases involving harmful substances and arbitration proceedings. MARPOL basically lays down structural and procedural rules regulating intentional and accidental oil pollution in ports during routine operations. The procedural requirements obligate the crew to keep ship’s discharges as clean as possible and the flag states to monitor and punish those ships which violates operational requirements. The technical specifications are based upon design and construction specifications to reduce or control oil pollution.

Summary of Technical and Monitory Specifications under MARPOL 73/78 to Control Oil Discharges during Routine Operations

The MARPOL was highly controversial as it introduced SBTs for all new tankers over 70000 dwt³³. Ships are categorized as new and old on the basis

²⁹ *Id.*, Preface of the convention

³⁰ *Id.*, art.3(3)

³¹ *Id.*, art.2, definition.4

³² *Id.*, definition 3(b)

³³ MARPOL 73/78, Annex I, reg.13 introduced SBTs for all new tankers over 20000 dwt.

whether they are built after certain dates depending on the date of the contract, keel lay and delivery³⁴. For existing vessels, COW and CBT may replace SBT³⁵.

The Regulation prohibited all new tankers over 4000 grt and all new oil tankers over 150 grt from using fuel tanks to carry ballast water³⁶. The convention retained the discharge specifications under the OILPOL 54/69 regime, especially the LOT system. In addition, new rules were introduced on installation of oil discharge, cargo monitoring and control devices³⁷, oil-water separator and oil filtering systems³⁸. The convention mandated slop tanks for all new tankers. Thus, complete prohibition of discharge other than into the shore reception facilities was to be ensured.

For tankers these control and monitoring systems were very stringent imposing new discharge limit of 1/30000 of the vessel's capacity in place of the existing limit of 1/15000³⁹. Also, the rate at which oil is discharged should not be more than sixty litres per mile, travelled by the ship. The convention established total prohibition zones called as 'special areas'⁴⁰ in addition to the existing 50 miles zone, wherein no oil discharge by any type of tankers was permitted, only exception being those under 400grt on special circumstances⁴¹.

³⁴ Quoted from Andrew Griffin, "MARPOL 73/78 and Vessel Pollution: A Glass Full or Half-Empty?" 1 *Indiana Journal of Global Legal Studies* 489 (1994)

³⁵ MARPOL 73/78, Annex I, reg.13B

³⁶ *Id.*, Annex I, reg.14(1)

³⁷ *Id.*, Annex I, reg. 15(3) reads, "The monitoring hardware will record "the discharge in litres per nautical mile and total quantity discharged, or the oil content and rate of discharge" consistently and these data must be preserved for minimum three years."

³⁸ *Id.*, Annex I, regs.14-19

³⁹ *Id.*, Annex I, regs. 9(1) (a) (v)

⁴⁰ These special areas were the Mediterranean sea, Baltic Sea, Black sea, Red sea and the Persian Gulf

⁴¹ *Supra* n.24, MARPOL 73/78, Annex I, reg. 10(2)

For other vessels, the discharge and control specifications are less stringent. The oil content of the effluents must be less than 100 ppm and total prohibition of discharge is applicable within the 12 nm zone and in 'special areas'.

All ships should maintain and carry Oil Record Book⁴², which should enter the daily discharge particulars. Every aspect of the oil discharge from loading to unloading and from one vessel to another should be logged in this book. The state parties are given power to inspect this book⁴³. The MARPOL 73 adopted port reception facilities as it was originally visualized under the OILPOL 54/69 regime⁴⁴. In this regard, the wordings of OILPOL54/69 was adopted *in verbatim*, 'states shall undertake to ensure provision' of such facilities. Thus non-obligatory status of 'port reception facilities' continues to prevail under MARPOL 73.

The MARPOL Enforcement Regime

MARPOL enforcement may be carried out in three methods: by quality ship inspections to see that technical specification by the convention are carried out, through monitoring ship compliance with discharge standards and by imposing punishments for willful violations.

Flag State Inspections and Surveys

Every flag administration should conduct an initial survey before the ship is put in service or before the survey certificate⁴⁵ is issued for the first time, which includes a complete survey of its structure, equipment, systems, fittings, arrangements and material⁴⁶. Thereafter, the administration should ensure periodic surveys not exceeding five years to assess the same⁴⁷. It should

⁴² Herein after to be referred to as the ORB

⁴³ *Id.*, Annex I, reg.20

⁴⁴ *Id.*, Annex I, reg. 12(1)

⁴⁵ Required under reg.5

⁴⁶ *Id.*, Annex I, reg. 4(1) (a)

⁴⁷ *Id.*, Annex I, reg. 4(1) (b)

also conduct at least one intermediate survey within the validity of the certificate period, to ensure that the equipment and associated pump and piping systems, including oil-discharge monitoring and control systems, crude oil washing system, oil water separating equipment and oil filtering systems fully comply with applicable requirements⁴⁸ and are in good working condition⁴⁹.

Every flag administration should nominate surveyors or recognized organizations to conduct surveys and inspections⁵⁰. These surveyors conduct surveys as per the schedules to ensure the validity of certificate and technical requirements⁵¹. If deficiencies are found, the ship might be asked to conduct repair works before it sails away from the port. To carry out effective survey, the port and flag administrations should extend their full co-operation to the surveying officers and recognized organizations. The surveyors can inform the flag and port administrations about the deficiencies of the vessel, if any, after the survey. The object of the survey should be to ensure that the vessel is not offering unreasonable threat to the marine environment. It is important that after a survey has been successfully completed⁵², no change shall be made in the structure, equipment, systems, fitting, arrangements or material covered by the survey except the direct replacement of that equipment or fittings⁵³.

After a survey has been successfully completed⁵⁴, an International Oil Pollution Prevention Certificate⁵⁵ shall be issued initially for a period of five years. It is the duty of port administrations to check the validity of IOPP once

⁴⁸ Requirements of Annex I

⁴⁹ *Id.*, Annex I, reg. 4(1) (c)

⁵⁰ Requirement under reg.4

⁵¹ *Id.*, Annex I, reg. 4(3) (a)

⁵² As per the requirements of Annex I, reg. 4(1)

⁵³ *Id.*, Annex I, reg. 4 (b)

⁵⁴ As per the requirements of Annex I, reg. 4

⁵⁵ Herein after to be referred to as the IOPP

the ship is in their jurisdiction. If the ship has no IOPP, it may conduct a full survey. The port state is empowered to conduct a complete survey if there are “clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of IOPP”.

Monitoring and Control Systems

Surveys and continuous assessment schemes may be considered as preventive measures. Sanctions may be imposed based on the evidence of willful violations. This procedure is extremely difficult for various reasons. Primarily, port states lack technology sophistication and interest to monitor violations on high seas. It is not at all possible to take enforcement actions against a vessel plying on high seas. In most cases visible oil slicks are seen trailing at the back of the vessel, but it is extremely difficult to link this slick to a particular ship. Even if it is fixed, the flag states may not accept the evidence⁵⁶. Thus, there is scope for monitoring and control systems only when the vessel is at ports. Evidences are usually collected by checking ORB, monitoring hardware and slop tanks.

Every ship should have on board a Shipboard Oil Pollution Emergency Plan approved by the flag administration. The plan shall amongst others make provisions for ‘the procedure to be followed by the master or other persons in charge of the ship to report an oil incident as required under the convention⁵⁷; the list of authorities or persons to be contacted in the event of an oil pollution incident; a detailed description of the action to be taken immediately by persons on board to reduce or control the discharge of oil following the incident; and the procedures and point of contact on the ship for co-coordinating shipboard action with national and local authorities in combating the pollution’.

⁵⁶ *Id.*, Annex I, reg. 26

⁵⁷ Requirement as per art.8

Port State Inspections

A certificate issued under the regulations by any party to the convention should be accepted by other parties for all purposes covered by the convention as having the same validity as a certificate issued by them⁵⁸. MARPOL empowers port state control whereby every vessel in ports or offshore terminals of a state party should hold valid certificates so as to enable the inspections by the officers of the port state. If the port state is having ample evidence to show that the ship does not have valid certificates, it may deny entry for the ship to the port or may prevent it from sailing away only after complying with the provisions of the convention⁵⁹. Before taking the port state control measures, there is a duty on the port states to inform the flag administration about the ship's deficiencies and deny entry only after consultation⁶⁰. Upon port state inspections, if it is found that the ship has discharged harmful substances or effluents in violation of the provisions of the convention, the matter could be put to the notice of flag state and the latter may initiate investigations. The flag state may ask for more evidence on unauthorized discharges from the port state and if there is sufficient evidence proving the violations, the flag state should cause such proceedings to be taken in accordance with its law as soon as possible⁶¹. The convention recognizes port state jurisdiction⁶². Upon the request from a state party to the convention, the port states should also initiate inspections and proceedings against willful violations based upon sufficient evidence produced by the party affected. Under this provision, the ports state may initiate proceedings against the vessel in its port for offences committed elsewhere also.

⁵⁸ *Id.*, art.5(1)

⁵⁹ *Id.*, art. 5(2) & (3)

⁶⁰ *Id.*

⁶¹ *Id.*, art.6 (1-4)

⁶² *Id.*, art.6(5)

The convention recognizes the primacy of flag state jurisdiction. Flag states alone cannot control violations happening at various ports. Therefore, the convention provides for concurrent jurisdictional regime in ports for the control of operational pollution. The enforcement framework ensures that every flag State has a duty to make sure that ships which fly its flag or which are under its control comply with MARPOL 73/78. The flag state may decide on how to carry out this obligation but generally they complete it by means of surveys and inspections of tankers and large ships⁶³.

Sanctions for Violation of MARPOL

If the flag administration gets ample evidence on intentional violations of the provisions of the convention, it should take as soon as possible all proceedings in accordance with its law and impose sanctions. The port states can also initiate prosecutions against the vessels, if found in its territory for violations or it may inform the concerned flag state and request it to take necessary actions against the vessel. In that case, the flag state should take necessary actions and inform the same to the requesting party and also to the organization⁶⁴. When sanctions are imposed, the flag state must ensure that it is “adequate in severity to discourage violations of the present convention and shall be equally severe irrespective of where the violations occur.”⁶⁵ The penalties other than monetary one can be imposed by the coastal states only in cases of willful and serious pollution cases within the territorial sea⁶⁶. MARPOL does not mention about criminal prosecutions for willful discharges. It is left to the discretion of member states. Yet such a provision may be contemplated against willful polluter from a plain reading

⁶³ *Id.*, Annex I, reg. 4(1).MARPOL mandates surveys for tankers of 150 gross tons and above and for other ships of 400 gross tons and above

⁶⁴ *Id.*, art.4(1-4)

⁶⁵ *Id.*, art. 4(4)

⁶⁶ *Id.*, art.230(7)

of the provisions⁶⁷. The convention distinguishes between operational and accidental discharges⁶⁸. Broadly classifying, operational discharges are deliberate discharges of fuel oil, oil mixtures, oil wastes and noxious liquid substances whereas accidental discharges are those arising from maritime casualties such as collisions and grounding. The convention permits discharges under four circumstances, in (1) when the operational discharges meet with MARPOL requirements, (2) discharge in case of *force majeure* or to save life at sea, (3) discharge approved by the administration in order to combat pollution and (4) discharges due to unforeseen damages or in emergency situation done even after taking sufficient precautions and without any reckless intention to do so by the master, crew and the ship owner⁶⁹. Hence, it may be said that MARPOL considers criminal prosecutions for willful pollution during routine operations but does not support the same for accidental discharges.

Critical Appraisal of Provisions to Control Operational Oil Pollution under MARPOL 73/78

MARPOL 73/78 is a comprehensive treaty controlling all modes of operational and accidental pollution. Like all other international conventions, it is also a sweet compromise of developed and developing maritime interests. It was only when the American and British coasts were affected by a series of tanker disasters during the period 1967-77, these major maritime countries and the western world had led the discussions on solutions for potential threats from operational pollution. Subsequently, they vehemently legislated on discharge

⁶⁷ *Id.*, art. 4(4), See, M.G. Faure et.al, *Prevention and Compensation of Marine Pollution Damage: Recent Development in Europe, China and the U.S*, Kluwer Law International (2006), p. 46

⁶⁸ *Id.*, Annex I, regs. 9, 10 and 11 and Annex II, reg. 5

⁶⁹ *Id.*, Annex II, reg.6, See, J.M.M. Osante, "Competition and the European Union Directive on Criminal Penalties for Ship Source Pollution", 14 *Journal of Maritime Law and Commerce* 419 (2008)

standards and operational requirements and took unilateral measures of control over foreign vessels. If oil companies were to trade in the United States, they had to oblige to these unilateral requirements. Thus, when the conference was called up on to adopt MARPOL in 1973; there were already established American and British unilateral strong proposals. At the same time, the developing countries had no technology advancement to adopt these specifications. Without enough ratification, the treaty would have remained as a distant dream. Obviously, the draft was a compromise and had several drawbacks. The treaty is beautifully drafted with some really effective technical and procedural requirements to prevent operational pollution but with very weak implementation and enforcement provisions.

Regarding the technical requirements, the greatest drawback of MARPOL is that it compromised SBT requirement for existing tankers. As per the treaty provisions, only the new tankers above 20000 dwt were to adopt the SBT requirement. All existing tankers had the option to adopt among COW, LOT or SBT. This compromise was made following the U.S pressurizing for SBT and other nations proposing the economic advantages of COW and LOT over the SBT⁷⁰.

Annex I prescribe for LOT. Ships are to keep their oil residues on board through the LOT procedure so that it may be discharged only into the port reception facility. And, here is the real difficulty. Port reception facility is highly expensive and therefore most of the international ports do not offer it⁷¹.

⁷⁰ If SBTs were made mandatory for existing tankers as well, the tanker capacity may be reduced and more tankers would be in need to carry the same cargo. This had prompted independent tanker owners to demand for MARPOL 73 amendment so as to make SBTs mandatory. For political and economic realities of control regime, *See* Alan Khee Jin Tan, *Vessel Sourced Marine Pollution: the Law and Politics of International Regulation*, Cambridge University Press (2005)

⁷¹ “Green Incentives? Adequate Reception Facilities for Tank Washings and Slops Must Be Paid For”, *Lloyds List*, October 12 (1992), quoted in Andrew Griffin, *supra* n. 40 at p.505

Those ports which have this facility charges exorbitant costs on ship owners. MARPOL offers no solution for this problem.

MARPOL 73 prescribes only a weak enforcement regime. The regulatory regime depends too much upon the crew competency and diligence, maintenance of discharge record books and flag state enforcement measures. Practically it has the same short comings of OILPOL 54/69. The primary duty to inspect and certify vessels, investigate violations and impose punishments lies with the flag state. Coastal states are having jurisdiction for the same purpose only within their territorial waters. If at all a pollution incident happens, the procedure for exercising coastal state jurisdiction is extremely cumbersome as it involves informing the flag state and taking all steps to avoid discriminatory practices. In reality, most of the coastal states are not enthusiastic to invoke strong measures against violating vessels as it would affect their trade interests to a considerable extent. Often, environmental interests are sacrificed in order to avoid fiery political spat with the flag state.

Considering the fact that majority of the marine fleet belongs to flags of convenience, the flag state enforcement is not reliable anymore. Flags of convenience are too much concerned about their income from registries than policing the oceans and its conservation. Least is their concern for safety and environmental issues in foreign ports. The convention failed to establish basic standards and criteria for enforcement measures. Hence, every state may develop its own criteria for monitoring, inspecting, investigating and punishing foreign vessels for violations by enacting unilateral legislations at the domestic level. MARPOL has failed to establish universal enforcement regime for the control of operational pollution in ports.

It is not at all a welcoming provision that MARPOL amendments depend upon the sweet will of open registries. The amendments and ratifications depend on fifty per cent of world's gross tonnage, which unfortunately are dominated by

the open registries like Liberia and Panama. Coastal and port state interests are given less priority in this regard⁷².

Despite all these deficiencies, MARPOL is still recognized as a good treaty for the control of pollution from ships because of its technical specifications. The state parties were forced to implement the provisions if they were to continue in international trade. The convention compromising many of the stringent rules in favour of flag states and oil companies, have much to its credit when it comes to control of operational pollution in ports. Almost ninety per cent of the world marine fleet is already covered under the MARPOL regime which shows the success rate of this international convention. Had it not been a compromise of some of the provisions in favour of major maritime interests, the treaty would have never been adopted.

MARPOL Implementation and Enforcement in the European Union

On December 1999, the *Erika*, twenty five year old single hull tanker had caused fuel oil leakage polluting almost 400 Km along the French coastal line and killing ten thousands of seabirds. The Indian captain of the ship Karun Mathur was put behind the bars for charges of endangering human lives and for causing marine pollution. The Italian owners of the vessel were imprisoned for one year and a fine of EUR 75000 was imposed on them. The company was also heavily fined by the French court.

On 13th November 2002, the vessel *Prestige* wrecked of the coast of Spain, en- route Singapore, leaking almost 77000 tons of fuel oil into Spanish coastal waters. The Spanish Judge had found the captain of the ship guilty for the spill and sentenced him to imprisonment, which could have been for nine years, but luckily for him the evidences were not supportive.

MARPOL leaves it to the discretion of member states whether to conduct criminal trials for operational oil spills. Yet, the European Union directive

⁷² MARPOL 73/78, art.15(1)

prescribes for criminal prosecution of seafarers even for accidental discharges⁷³. Why should the organization be too much interested in implementing criminal trials? Public opinion and political pressure may be the reason.

In the European Court of Justice Case, *C-308/06, concerning the validity of the European Union Directive, EU DIRECTIVE 2005/35/EC on Ship Source Pollution*⁷⁴, the Commission had upheld the validity of the direction. It had opined that the international civil liability regime for oil pollution damages had its own limitations and hence, criminal prosecutions of pollution incidents are important. It had also held that even though MARPOL had detailed specifications for pollution control, it lacked effective implementation and enforcement standards. Hence, the directive would clarify the community law in this aspect and will ensure effective enforcement and implementation standards so as to prevent MARPOL violations. Under the Directive⁷⁵, discharging of polluting substances into the internal waters, including ports of the member states, by any ship is regarded as an infringement, if committed with intent, reckless or by serious negligence. Thus, unlike the MARPOL, the EC directive does not distinguish operational and accidental discharges to impose criminal sanctions.

MARPOL Implementation and Enforcement in the United States

Despite the reduction in the number of oil spills, there has been a considerable rise in the number of criminal prosecutions by the EPA in the U.S.A

⁷³ The EU Directive 2005/667/JHA, Decision to strengthen the criminal-law framework for the enforcement of the law against ship-source pollution, 2005

⁷⁴ Quoted in R. Pereira, "On the Legality of the Ship Source Pollution 2005/35/EC Directive- The Intertanko Case and selected others", *European Energy and Environmental Law Review* 374 (2008)

⁷⁵ 2005/35/EC Directive on ship-source pollution and on the introduction of penalties for infringements, 2005, art.3(1)

for vessel sourced pollutions⁷⁶. The powers of the United States Coast Guard⁷⁷ have been enhanced greatly under the Coast Guard Authorization Act, 1998⁷⁸. The Act amends⁷⁹ the Ports and Waterways Safety Act, 1978⁸⁰, whereby the USCG pilots have jurisdiction up to 12 nm from the shore for civil, criminal and administrative purposes⁸¹. Under the PWSA⁸², the coast guard has potential investigating powers. As per the Coast Guard Act, 1998⁸³, the coastguard is also the chief reporting agency on the ISM Code implementation. This section encourages the coast guard to develop a policy balancing trade and environment wherein they encourage precise and open reporting and auditing under the ISM Code by waiving enforcement penalties. In the *United States v. Varlack Ventures, Inc.*⁸⁴, the court noted that, the coast guard has abundant powers to investigate environmental crimes and ensure safety on board without even a ‘search

⁷⁶ David G. Dickman, “Recent Developments in the Criminal Enforcement of Maritime Environmental Laws”, 24 *Tulane Maritime Law Journal* 1, (1999-2000). Also See, Nicholas C. Yost, “The State of Environmental Law Enforcement: A Speech Presented at the American Bar Association’s 1998 Annual Meeting”, 28 *Environmental Law Reporter News and Analysis* 10711 (1998).

⁷⁷ Herein after to be referred to as the USCG

⁷⁸ Public Law 105–383 (1998) 112 Stat. 3411, Available at <http://www.gpo.gov/fdsys/pkg/PLAW-105publ383/pdf/PLAW-105publ383.pdf>, last visited February 2012.

⁷⁹ The Coast Guard Authorization Act, 1998, s.301

⁸⁰ Herein after to be the PWSA

⁸¹ *United States v. One Big Six Wheel*, 987 Fed. Supp. 169, 1998 AMC 934. After this decision, the federal government may prosecute ship owners, crew members and operators for violations of federal and state environmental laws within the 12nm limits of the territorial sea.

⁸² The PWSA, 1978, s.1227

⁸³ The Coast Guard Act, 1998, s.306

⁸⁴ 1999 A.M.C 255 (3rd Cir.1998)

warrant⁸⁵. In this case, the vessel captain was convicted for not reporting oil discharge and the company was held liable to pay monetary compensation.

MARPOL is implemented generally under the Act to Prevent Pollution from Ships, 2000⁸⁶. All willful violations of the provisions of MARPOL, APPS and Coast Guard Regulations invite criminal prosecutions under the APPS⁸⁷. In the *United States v. Royal Caribbean Cruise Ltd.*⁸⁸, the court observed,

“MARPOL and APPS seems to compliment 18 U.S.C. Section 1001 so as to maximise pollution enforcement efforts both in domestic and international arena rather than bar a prosecution”⁸⁹.

The Clean Water Act, 1972⁹⁰ prohibits discharge of oil and hazardous substances⁹¹. The National Pollutants Discharge Elimination System⁹² permit is required under the CWA to discharge pollutants into the navigable waters of the United States from the vessels⁹³. In order to avoid the administrative delay in allowing permits, the EPA has exempted discharge of certain substances that are considered as usual during routine operations from the purview of NPDES system⁹⁴. Some of the judicial verdicts are against these exemptions or

⁸⁵ The Coast Guard Act, 1998, s.89(a)

⁸⁶ 33 U.S.C §§1901-1912, herein after to be referred to as the APPS

⁸⁷ 33 U.S. C. §§1908 (a) (1994)

⁸⁸ 11 F.Supp. 2d 1358, 1998 AMC 1817

⁸⁹ *Id.*, at 1366

⁹⁰ 33 U.S.C. §1251 et seq. (1972)

⁹¹ The Clean Water Act, 1972, s.311

⁹² Here in after to be referred to as the NPDES

⁹³ 33 U.S.C § 1311 (1994), the Clean Water Act, 1972, s.301

⁹⁴ 40 C.F.R § 122.3(a) (1998). This includes “any discharge of sewage from vessels, effluent from properly functioning marine engines, laundry, shower, and galley sink wastes, or any other wastes incidental to the normal operations of the vessel.”

permissible discharges. Recently, the EPA has been charging vessels more under the NPDES scheme of Clean Water Act (CWA) than under the APPS or MARPOL.

Under the CWA, vessels violating the discharge specifications are strictly prosecuted. The conviction depends upon harm produced irrespective of negligent or willful conducts⁹⁵. In the case of MARPOL, APPS and Coast Guard Regulations, higher standards are required to prove violations. Hence, it is easy for the prosecution to prove the offence under CWA and convictions are comparatively easier.

For example, in *United States v. M/G Transport Inc.*⁹⁶, the defendants were charged with unlawful discharge of garbage against NPDES regulations. In this case, the prosecution lasted for almost twenty years for illegal discharges of harmful quantities of oily waste from bilge slop and burned garbage from the M/G Transport's tow into the Ohio and Mississippi rivers. This was the first case reported under CWA. Charges were also framed under the OPA and APPS. The Vice President of the company and many boat captains were convicted by the sixth circuit court.

In *United States v. Overseas Ship Holding Group, INC.*⁹⁷, the Overseas Ship Holding Group was prosecuted for illegally discharging sludge and oily waste and deliberately concealing the pollution through false oil record books and fixing a tricky oil water separator. The company was convicted in 33 felony

⁹⁵ *United States v. Exxon Corporation*, No.A90-015 (D. Alaska Feb. 27, 1990), cited in Robert W. Vinal, "Enhancing Criminal Penalties for Catastrophic Discharges: Closing a Clean Water Act Loophole That a Leaking Super tanker Can Sail Through", 8 *Pace Environmental Law Review* 23 (1990)

⁹⁶ 173 F.3d 584 (1999)

⁹⁷ United States Court of Appeals, First Circuit, No.09-2684, dated October 18, 2010, available at <http://caselaw.findlaw.com/us-1st-circuit/1541776.html>, last accessed in December 2013

cases and a record penalty of 37 million dollars was imposed on it. The trial went under CWA, OPA, APPS, the False Statement Act and other criminal laws.

In *United States v. Royal Caribbean Cruises Ltd.*⁹⁸, the respondents pleaded guilty of discharging grey water from their vessels without an NPDES permit. The NPDES permit system has been extended to deal with aquatic nuisance for species from ballast water discharges. A criminal penalty of 25 million dollars was imposed on the corporation. Charges were framed under Clean Water Act, 1972, Oil Pollution Act, 1990 and the Resource Conservation and Recovery Act, 1976 for illegal discharges in port and coastal waters of oil and hazardous chemicals and falsification of oil record books.

Under the NPDES scheme, the newly introduced Vessel General Permit, 2008 regulates 'discharges incidental to the normal operation of vessels'. The VGP notifies general effluent limits applicable to all discharges and 26 specific discharge streams, descriptive water-quality based effluent limits, provisions for inspection, monitoring, recordkeeping, and reporting of operational discharges⁹⁹.

In an effort to codify Federal and State rules on permit for operational discharge from vessels, the EPA has enacted the Uniform National Discharge Standards, bringing into its purview even the U.S. military vessels.

Deciding a case on the greatest oil spill that the United States had ever witnessed, in the *United States v. Exxon Corporation (Alaska)*¹⁰⁰, the U.S. District Court found Exxon Corporation guilty of violating the Migratory Bird Treaty Act, 1918¹⁰¹ and the Exxon Shipping Company for violations of the Clean Water Act, 1972, the Refuse Act, 1899 and the MBTA. In this case, the Exxon was ordered to pay a fine of 25 million dollars. In a related case, *State of*

⁹⁸ C.D Cal.1999

⁹⁹ See, <http://cfpub.epa.gov/npdes/vessels/vgpermit.cfm#2008>; Last visited in February 2012

¹⁰⁰ 41 ELR 20046 (2012)

¹⁰¹ Hereinafter to be referred to as the MBTA

*Alaska v. Joseph Hazelwood*¹⁰², the captain of the ship was convicted for discharge of oil in violation of the statutes and for not keeping records. Captain Hazelwood was acquitted of all the felony and misdemeanour charges. He was convicted of one count of negligent discharge of oil for which he had to perform 1000 hours of community service.

In oil spill cases, federal prosecution is also proactive under the Refuse Act¹⁰³ and the MBTA¹⁰⁴.

The Oil Pollution Act, 1990¹⁰⁵ was enacted in response to the *Exxon Valdez* spill. The OPA establishes a National Oil Spill Liability Trust Fund and provides for National Oil and Hazardous Substances Pollution Contingency Planning for the government and industry. Under the OPA, rigorous punishments including heavy penalties are imposed on willful violators. The OPA regime enhances the authority and responsibility of federal government but also preserves the sovereignty of the state enforcement regime.

By means of a Presidential Proclamation in 1999, the contiguous zone of the United States has been extended to 24 nm¹⁰⁶. The UNCLOS empowers coastal states to enforce their custom, fiscal, sanitation and health laws in contiguous zone¹⁰⁷. It also recognizes coastal state jurisdiction in the EEZ for the protection of marine environment¹⁰⁸. Reading together these provisions, the United States criminal jurisdiction extends up to 24 nm from the baseline. Although not related to environmental crime the decision in *United States v. One Six Big Wheel*¹⁰⁹ has

¹⁰² 866 P.2d 827 (Alaska 1993)

¹⁰³ 33 U.S.C § 407 (1994)

¹⁰⁴ 16 U.S.C §§ 703-712 (1994)

¹⁰⁵ 33 U.S.C. §2701 et seq. (1990), herein after to be referred to as the OPA

¹⁰⁶ Proclamation No. 7219, 64 Fed. Reg.48,701 (1999)

¹⁰⁷ UNCLOS III, art.33

¹⁰⁸ *Id.*, art.218

¹⁰⁹ 1998 A.M.C 934

importance. This case extended the federal government's specific maritime and territorial jurisdiction over particular crimes committed in Federal Reserve areas outside the jurisdiction of 50 states. After this judgment it appears that the federal government may prosecute ship owners, operators and crew members for violations of state environmental laws, within the twelve mile territorial limits, even though some specific statutes like OPA and CWA limits the jurisdiction for criminal prosecutions up to 3 mile traditional limit.

The effect of all these legislations and judicial decisions are that any oil spill irrespective of whether it happens inside or outside the U.S. waters could be criminally prosecuted in the United States and strict liability may be fixed on the defaulter without any regard as to whether it was a negligent or intentional discharge. Hence, there is tremendous increase in criminalization of seafarers under the American admiralty jurisdiction. The commodity 'oil' finds diverse definitions under all the major pollution control laws in the United States¹¹⁰. Thus, oil may be petroleum or non-petroleum oil under different statutes and may be hazardous or non-hazardous. The carrier should be careful about these distinctions under various statutes as it may decide the civil and criminal liabilities.

In the United States, when there is pollution, criminal liability may be imposed under the federal and state environmental statutes. In addition, criminal liability may be imposed, *albeit* when there is no pollution, on the basis of damage to port structures, personal injury or loss of life as the case may be under ordinary criminal laws. The criminal liability first of all falls on the crew and subsequently on ship owners, operators, managers, and finally corporate officers of such institutions. Interestingly, courts have applied the 'responsible corporate officer doctrine' in vessel pollution cases to extend the

¹¹⁰ The Oil Pollution Act, 1990 (33 U.S.C §§ 2701-2761), the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C §§ 9601-9675 (1994)), the Clean Water Act (33U.S.C §§ 1251-1376) and the Act to Prevent Pollution from Ships (33 U.S.C 1901-1912)

criminal liability on shipping corporations and their corporate officers, irrespective of their real participation and knowledge of such incidents.

The draconian law in pollution cases imposes strict liability regardless of *mensrea* as the environmental statutes are meant to protect public welfare. Also, in negligence cases, proof of simple negligence is enough for the conviction. This has resulted in a hike in criminalization of seafarers in maritime pollution cases.

The civil liability runs parallel with the criminal liability. The issues involved in criminal prosecutions will be the same which could be the basis for civil actions. Long before the civil case even gets into serious discovery, the issues relating to negligence, recklessness and the specific facts regarding what happened will have already been determined by a court and jury. Thus, it is important to note that once caught for willful discharge of oil or hazardous wastes in U.S waters, there is no escape from civil and criminal liability. The American law is harsh on seafarers and ship owners.

MARPOL Implementation and Enforcement in India

MARPOL is implemented in India under the Merchant Shipping Act 1958, as amended by the Merchant Shipping (Amendment) Act, 2003 and under the allied rules and port regulations. The Act contains detailed provisions on control of operational oil pollution¹¹¹. The Act applies to tankers of 150 gross tons or more, other ships of 400 gross tons or more and ships under marine casualties but not to warships or government ships engaged in non-commercial activities¹¹².

According to the Act, no Indian tanker or ship shall proceed to sea or can operate in ports except with an International Oil Pollution Prevention

¹¹¹ The MSA, 1956, Part XI A, s.356A-356I. The Amendment Act of 2003 replaced these sections with 356A-356H.

¹¹² The Merchant Shipping (Amendment) Act, 2003, s. 356A (1) & (2)

Certificate¹¹³ issued by the Central government¹¹⁴. The same law applies to foreign ships in Indian ports. The IOPP certificate is mandatory for carrying oil and other noxious liquid substances.

Under the Act, the Central Government is the authority to prescribe any rule for Indian ships pertaining to “requirement for construction and equipment in ships to prevent pollution” from carriage of harmful substances¹¹⁵ or its mixtures¹¹⁶. These rules can be regarding,

“such equipment and to comply with such requirements for construction, survey of equipment and structure of such oil tankers or other ships and specifying conditions for making of surveys of all oil tankers or other ships, as may be prescribed, prior to issuing of international pollution prevention certificates”.

The Act insists on maintenance of record books on all routine operations in accordance with MARPOL¹¹⁷. The inspecting authority under the Act is the Marine Surveyor appointed by Director General of Shipping¹¹⁸.

¹¹³ Here in after to be referred to as the IOPP

¹¹⁴ The Merchant Shipping Amendment Act, 2003, s.356 C

¹¹⁵ *Id.*, Explanation reads, “For the purposes of this section, ‘harmful substance’ means any substance which, if introduced into the sea, is liable to create hazards to human health, harm living resources and marine life, damage amenities or interfere with other legitimate uses of the sea, and includes any substance subject to control by the Convention.”

¹¹⁶ *Id.*, s. 356E

¹¹⁷ *Id.*, s. 356F

¹¹⁸ Provisions are dealt under the M.S. (Amendment) Act 2003, Section 356G

It reads, “ A surveyor or any person authorized in this behalf may go, at any reasonable time, on board an oil tanker or other ship to which any of the provisions of this Part applies, for the purposes of-

Enforcement powers for willful violations of MARPOL are vested with the Director General of Shipping in India. Upon the report of a surveyor on violations, he may detain the tanker or ship if necessary, until the causes of contravention are removed to his satisfaction or to that of an officer appointed by him¹¹⁹. He may also proceed against the tanker or ship as the case may be for recovery of pollution costs and cleaning up processes. If necessary, he may seek the assistance of Indian Navy or Coast Guard for the enforcement of his powers¹²⁰. He may take action against the captain of an Indian vessel in a foreign port for violations of MARPOL, upon the satisfactory evidence given by the concerned government of the foreign country.

The Act also prescribes for port reception facilities for receiving oil and other noxious liquid substances in bulk¹²¹. In case of any escape or discharge of oil and other noxious liquid substances in bulk in the port area, the Central Government can serve notice on the master, agent, owner and charterer of the tanker or ship. It may also take any action deemed fit to make these persons

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- (a) ensuring that the prohibitions, restrictions and obligations imposed by or under this Part are complied with;
 - (b) satisfying himself about the adequacy of the measures taken to prevent pollution;
 - (c) ascertaining the circumstances relating to an alleged discharge of substance which is subject to control by the Convention from the oil tanker other ship in contravention of the provisions of this Part;
 - (d) inspecting any record required to be maintained on board; and
 - (e) Checking the validity of the international oil pollution prevention certificates.
- (2) The surveyor or any such person may, if necessary, make, without unduly delaying the oil tanker or the other ship, a true copy of any record of the oil or the other ship and may require the master of such tanker of ship to certify the copy to be a true copy and such copy shall be admissible as evidence of the facts stated therein.”

¹¹⁹ *Id.*, s. 356H (1)

¹²⁰ *Ibid*

¹²¹ *Id.*, s. 356I

comply with the specifications in the notice and fine them in spite of any separate offence charged against them under the Act¹²². The Act makes provisions for collection of oil pollution cess from every ship visiting Indian ports which can be used for the purposes of providing for port reception facilities, equipment and materials for combating oil pollution in various ports in India¹²³. Until the dues on oil pollution cess are not met up by the vessel, port clearance may be denied¹²⁴. The Act gives rule making power for this part with the Central Government¹²⁵.

Accordingly, the Central Government has framed Rules for implementing MARPOL, in 2010¹²⁶.

Rules for Preventing Oil Pollution from Ships

The Rule¹²⁷ provides for initial survey 'of its structure, equipment, systems, fittings, arrangements and material so as to ensure that they are put in service before the IOPP certificate is issued in accordance with the international convention¹²⁸. It also provides for a renewal survey in every five years and intermediate surveys, 'such as to ensure that the equipment and the associated pump and piping systems, including oil discharge monitoring and control systems, crude oil washing systems, oily-water separating equipment and oil filtering systems, fully comply with the requirements of the rules'. Additional surveys are also prescribed whenever repairs or renewals are being done in order to check that

¹²² *Id.*, s. 356K

¹²³ *Id.*, s. 356 M

¹²⁴ *Id.*, s. 356N

¹²⁵ *Id.*, s. 356O

¹²⁶ Details available at <http://www.dgshipping.com/dgship/final/rules/rules.htm>, last visited in April 2012

¹²⁷ The Merchant Shipping (Prevention of Pollution by Oil from Ships) Rules, 1974, as amended by the Merchant Shipping (Prevention of Pollution by Oil from Ships) Rules, 2010, G.S.R.329 (E), notified on 16th April 2010

¹²⁸ *Id.*, rules 6, 7 & 8

the repairs are conducted in accordance with the rules. The surveyor appointed by the Central Government is the authorized person to conduct surveys and submit the reports on deficiencies to it¹²⁹. If upon the survey, it is found that the ship is not fit to proceed to sea, the surveyor may direct corrective measures. A report should be submitted to the Central Government upon the issue and the Central Government shall notify the matter to all port states concerned, if the ship is *en-route* to that port. Under this rule, it is clearly stated that ‘the Central Government shall fully guarantee the completeness and efficiency of each such survey and shall take necessary steps to satisfy such obligation’¹³⁰. Accordingly, the Central Government may detain the vessel and order it to conduct repairs before proceeding to the sea. It may also pass on the information to the flag state or port state concerned, if the ship is *en-route* to a foreign port.

In case of any material changes in the structure, design and equipment of the vessel happening out of marine casualties or of any other cause after the completion of surveys, it is the duty of the master or owner as the case may be to inform the Central Government about it in order to conduct investigations.

Upon satisfactory completion of the initial or renewal surveys, the IOPP certificate may be issued to an oil tanker *en route* to the ports of other state parties of the convention, which are above 150 gross tons or any other ships above 400 gross tons¹³¹. An Indian IOPP may be issued under the same condition for ships or tankers of the same specifications engaged in coastal trade.

Port State Control Specifications¹³²

Every foreign ship can be inspected at Indian ports by the surveyor or any other authorised persons in order to check MARPOL specifications and

¹²⁹ The M.S. Act, 2003, ss.9 and 356G

¹³⁰ The M.S. (Prevention of Pollution by Oil from Ships) Rules, 2010, ch. II, rule 6

¹³¹ *Id.*, rule 7

¹³² *Id.*, rule 11

certificates under it. If upon such an inspection, it is found that the master, owner or crew of the ship or tanker are not fully versant with the operational requirements and procedures specified under the Merchant Shipping Act, 2003 and the rules there under, the matter should be informed to the D.G. Shipping and he may initiate proceeding under the Act¹³³.

Control of Operational Discharges of Oil from Machinery Space Operations and Cargo Areas

Control of Operational Discharges of Oil from machinery space operations are also provided in the rules¹³⁴. Any discharge of oil or oily mixture into the sea is totally prohibited¹³⁵. Controlled discharge is allowed outside special areas only when the ship over 400 gross tons is proceeding en route. The oil mixture should pass through an oil filtering equipment. The oil content of the effluent without dilution should not exceed fifteen parts per million. The oily mixture should not originate from cargo pump-room bilges on oil tankers and the oily mixture, in case of oil tankers, should not be mixed with oil cargo residues¹³⁶.

Oil Record Book¹³⁷

Part I of the oil record book deals with machinery space operations¹³⁸ and Part II with cargo and ballast operations¹³⁹. Every oil tanker of one hundred and

¹³³ The M.S. Act, 2003, s.356H

¹³⁴ The M.S. (Prevention of Pollution by Oil from Ships) Rules, 2010, r.15, 34

¹³⁵ The M.S. (Prevention of Pollution by Oil from Ships) Rules, 2010, r. 15

¹³⁶ *Ibid*

¹³⁷ *Id.*, rules 17 & 36, herein after to be referred to as the ORB

¹³⁸ These operations include ballasting or cleaning of oil fuel tanks, discharge of dirty ballast or cleaning water from oil fuel tanks, collection and disposal of oil residues (sludge and other oil residues), discharge overboard or disposal otherwise of bilge water which has accumulated in machinery spaces, and bunkering of fuel or bulk lubricating oil

fifty gross tons and above and every ship of four hundred gross tons and above other than an oil tanker should be provided with an ORB. The ORB should be updated with details on machinery space operations. Every entry in the ORB should be accurate and it should be readily available for inspection. The surveyor 'may inspect the ORB on board any ship while the ship is in an Indian port or offshore terminals and the provisions the Act shall accordingly, apply'¹⁴⁰.

Whenever visible traces of oil are seen behind a vessel, the Central Government can conduct investigations on the basis of wind and sea conditions, speed and track of the vessel and discharge books¹⁴¹. The discharge into the sea should not contain chemicals or other substances in quantities or concentrations, which are hazardous to the marine environment or chemicals or other substances shall not be introduced for the purpose of circumventing the conditions of discharge specified in the rules¹⁴². The oil residues that cannot be discharged into the sea should be retained on board for subsequent discharge into port reception facilities¹⁴³.

Ship Board Oil Pollution Emergency Plan¹⁴⁴

Every oil tanker of one hundred and fifty gross tons and above and every ship other than an oil tanker of four hundred gross tons and above should

¹³⁹ These operations are loading of oil cargo, internal transfer of oil cargo during voyage, unloading of oil cargo ballasting of cargo tanks and dedicated clean ballast tanks, cleaning of cargo tanks including crude oil washing, discharge of ballast except from segregated ballast tanks, discharge of water from slop tanks, closing of all applicable valves or similar devices after slop tank discharge operations, closing of valves necessary for isolation of dedicated clean ballast tanks from cargo and stripping lines after slop tank discharge operations; and disposal of residues

¹⁴⁰ The MSA, 2003, s. 356G (2)

¹⁴¹ *Id.*, sub rule 7

¹⁴² *Id.*, sub rule 8

¹⁴³ *Id.*, sub rule 9

¹⁴⁴ *Id.*, sub rule 37, sub rules 1- 4

carry on board a shipboard oil pollution emergency plan based on MARPOL, approved by the Central Government¹⁴⁵. This plan should name the list of persons to be contacted in case of an oil pollution incident, actions to be taken to mitigate the damage and scheme for effective co-ordination among various authorities. All oil tankers of five thousand tonnes deadweight or more should have prompt access to computerized shore-based damage stability and residual structural strength calculation programmes.

Reception Facilities¹⁴⁶

The Central Government should ensure that adequate reception facilities are available at all oil loading terminals, repair ports and other ports ‘for the reception of such residues and oily mixtures as remain from oil tankers and other ships, which should be adequate to meet the needs of ships using them without causing undue delay to ships’¹⁴⁷.

For the violations of the rules, the Central Government can impose a fine of one thousand rupees and if the breach is a continuing one, with a further fine of fifty rupees, every day during which the offence continues¹⁴⁸.

Standards of the Indian Port State Control Inspections to Control Operational Vessel Pollution in Ports

The D.G. Shipping is the enforcement agency under the Merchant Shipping Act 1958 and the amendments thereto for controlling vessel sourced operational pollution in ports. The Mercantile Marine Department acting under the D.G. Shipping should ensure that Merchant Shipping Rules 2010 are effectively implemented at all ports in India. The port state officers are the

¹⁴⁵ *Id.*, rule 37

¹⁴⁶ *Id.*, ch. VI, rule 38

¹⁴⁷ *Id.*

¹⁴⁸ The M.S. Act 1958, s.458, cl.2 (b)

Surveyors acting under the direction and control of the Chief Surveyor of the Mercantile Marine Department, regional zones.

DG's office issues circulars and notifications regularly on the latest IMO guidelines about operational requirements¹⁴⁹. Most of these circulars are technical requirements on board for MARPOL compliance¹⁵⁰. These notifications are issued on the background of increased number of ship detentions for deficiencies identified during surveys such as defective or inoperative oil-water separators, illegal by-passing by pipes and direct illegal oil discharges overboard¹⁵¹.

Consequences of non-compliance generally includes detention of the vessel, assessment of substantial fines and penalties as decided by the D.G. Shipping or port authority, withdrawal of vessels certificate of registry and fine, suspension or withdrawal of certificate of competency of the concerned ship's officer for MARPOL violations.

The effectiveness of the survey depends upon its quality and timely inspections of certificates under the MARPOL, especially the IOPP. D.G. Shipping has been directing MMD surveyors to carry out stringent initial surveys on IOPP certificate. It is doubtful whether the renewal and annual surveys are carried out effectively as per the MARPOL regulations and the Merchant Shipping Act and rules thereunder. The efficiency of the follow up surveys will definitely have high hand on tracking substandard shipping and enforcement of corrective measures.

¹⁴⁹ D.G Shipping, Engineering Circular 18, F.No.ENG/OPP-53(9)/87-I, dated 10th October 2003, available at the website, http://www.dgshipping.com/dgship/final/notices/engcir_18.htm, last visited in April 27th 2012

¹⁵⁰ *Ibid*

¹⁵¹ *Ibid*

This would also require the co-operation of crew on board as in most cases defective and crooked practices may be adopted to by-pass routine surveys which are extremely difficult to identify¹⁵². A good ISM ship board plan may cure these illegal practices to a considerable extent. On the contrary, port state inspection technics may be refined by using expertise and sophisticated technology to detect such defective and illegal discharges over board.

When analyzing the causes of these illegal discharges over board and defective practices resorted to on board by the crew to bypass detentions, the key reason may be the deficiencies in the enforcement of MARPOL compliance.

Powers of the Port Authority

The port authority may frame rules relating to ballast or cargo discharge, discharge of oil or oily mixture at the port, regulating bunkering of liquid fuel including description of barges, pipelines or tank vehicles used during such bunkering¹⁵³. The port officers who are to implement the provisions of the Act are

¹⁵² From discussion with Chief Engineer Ayinippully Vineeth, Maersk Tankers, he says, “mostly discrepancies may be identified as missing pages or erasures in oil record book/ cargo record book/ sewage or garbage record book, ORB and bilge sounding records discrepancies, ORB record exceeds bilge capacity, in operative or modified oil water separators and un-familiarity of the crew with operational requirements.”

¹⁵³ Indian Ports Act 1908, Section 6 reads, “ The Government may, in addition to any rules which it may make under any other enactment for the time being in force, make such rules, consistent with this Act, as it thinks necessary for any of the following purposes, namely:--

- (e) for regulating vessels whilst taking-in or discharging passengers, ballast or cargo, or any particular kind of cargo, in any such port, and the stations to be occupied by vessels whilst so engaged;
- (ee) for regulating the manner in which oil or water mixed with oil shall be discharged in any such port and for the disposal of the same;
- (eee) for regulating the bunkering of vessels with liquid fuel in any such port and the description of barges, pipe lines or tank vehicles to be employed in such bunkering.”

the conservator of ports, the harbour master and his assistants¹⁵⁴. The port officer may board the vessel for inspections relating to violations of any provisions of the Act¹⁵⁵.

Criminal Prosecution under the Indian Ports Act

Under the Indian Ports Act 1908, improper discharging of ballast water, rubbish or any other thing which may form a bank or shoal or obstruct navigation in port area may invoke criminal prosecutions¹⁵⁶. The same rule is applicable to illegal discharge of oil or oily mixture into the port waters. Any person who contravenes the Act, either by himself or another so casts, may be fined up to 3 lakhs rupees¹⁵⁷. Even after receiving directions from the conservator of ports on not to throw ballast, rubbish or such other things, if the master of the vessels so casts, he is liable to be punished¹⁵⁸.

All offences under the Act are triable by the Magistrate having jurisdiction over any district or place adjoining the port¹⁵⁹.

¹⁵⁴ *Id.*, s. 7

¹⁵⁵ *Id.*, s. 15

¹⁵⁶ The Indian Ports Act 1908, s.21

¹⁵⁷ *Id.*, Cl.2 and s.6 (e), (ee) and (eee)

¹⁵⁸ *Id.*, Cl.3. The provision details on imprisonment up to 1 year or with a fine up to 5 lakhs rupees or with both

¹⁵⁹ *Id.*, s. 60. It reads,

“Any person offending against the provisions of this Act in any port subject to this Act shall be punishable by any Magistrate having jurisdiction over any district or place adjoining the port.

(2) Such Magistrate may exercise all the powers of a Magistrate under this Act, in the same manner and to the same extent as if the offence had been committed locally within the limits of his jurisdiction, notwithstanding that the offence may not have been committed locally within such limits, and, in case any such Magistrate exercises the jurisdiction hereby vested in him, the offence shall be deemed, for all purposes, to have been committed locally within the limits of his jurisdiction”.

Oil Spills are recorded usually in terms of its size. Any spill above 7 tonnes is normally recorded but this does not mean that Indian waters are devoid of accidental or operational spills. Over 85% of the spills are minor ones which are usually not recorded by any organization¹⁶⁰. There is a serious criticism that port authorities are generally reluctant to prosecute the offenders. Since, the amount of pollution is minimal, blame worthiness is also minimal and there is no other fact to contradict the said preposition.

Minor spills resulting from improper operations of certain valves, pipes or due to improper judgment of the employee, rather than a deliberate disregard of corporate good governance by the owner, normally results in minor prosecutions, imposing fine. Only when major spills resulting from maritime casualties such as collisions and groundings happens, the doctrine of ‘corporate responsibility’ is invoked binding the owner with strict liability upon the principle, the “polluter pay”. A reasonable proportion of operational spills happen in dry docks, where the damage to the environment is minimal. Criminal prosecution will certainly depend upon all these facts.

In *Primate Shipping INC. six v. The Board of Trustees for the Port of Calcutta*¹⁶¹, the Calcutta High Court, while deciding the validity of the notice issued by the Calcutta Port Trust against the appellants, to remove the grounded vessel from the channel of navigation in default of which imposing on them a fine of rupees 10 Crores held:

¹⁶⁰ One of the organizations keeping track of oil spills includes International Tanker Owner’s Pollution Federation Ltd. (ITOPF). The details of major oil spills at international level as well as near to the Indian coast area accounted in their website. The details of major spills in Indian coasts may be seen in “Blue Waters”, The Indian Coast guard Publication, especially in editions from 2000-2012.

¹⁶¹ APO No. 36 of 2005 in WP No. 2022 of 2000 (In the High Court of Calcutta, dated 17th September 2008)

“A read of section 21(1) of the 1908 Act shows that the provisions are mandatory. It obligates that no ballast or rubbish and no other thing detrimental to navigation, without lawful excuse be cast or thrown into any port and no oil or water mixed with oil shall be discharged in or into any such port otherwise than in accordance with the Rules. Since the ship which ran aground was carrying ‘dangerous cargo’ and fuel oil it was detrimental to navigation under section 21 of the 1908 Act. Hence, the action of respondent no.5 is just and proper. Moreover, sections 14 and 21 of the 1908 are beneficial provisions for navigation ensuring protection to shipping from the impediment or even threat of impediment or against pollution”.

The Indian law has provisions for the criminal prosecution of mariners for willful pollution incidents. The details are given in Chapter 8 of the study.

Prevention and Control of Pollution in Major Ports

The Central Government had framed rules under the Indian Ports Act 1908 to prevent and control pollution in major ports¹⁶².

No vessel should discharge, throw, place, empty or allow to leak or flow or to fall to quay, jetty or pier or within the limits of a major port any pollutant¹⁶³. The rule prohibits discharging of ballast or oily mixture within the port limits that exceeds the count 15 parts per million. If at all discharged the count should not exceed the ceiling limit and it should be under the consent of

¹⁶² The Indian Ports Act, 1908, s.6

¹⁶³ *Id.*, rule 3.

the port authority, namely, the conservator of ports¹⁶⁴. When oil and de-ballasting has to be conducted simultaneously, the master of the vessel should ensure sufficient separation between the loading pipeline and the operation is conducted without polluting the waters of the port¹⁶⁵. While cleaning tanks or bilging no detergents should be thrown overboard otherwise than by oil-water separator or oil-filtering equipment and in no case it may pollute the port waters¹⁶⁶. Discharge of oil, tank washings, bilge water or other noxious substances are prohibited under the Act except with the consent of the conservator of ports¹⁶⁷. “No vessel shall load, discharge, transport, bunker ballast or de-ballast within limits of a major port without observing the precautions specified in the manual on Prevention of Oil Pollution and the International Safety Guide”¹⁶⁸. If any vessel has to discharge, oil, water or pollutant at any of the major ports, twenty four hour notice should be given to the port authority to provide for port reception facilities¹⁶⁹. Three hours prior to bunkering, written permission need to be obtained from the competent authority¹⁷⁰. The master of the vessel shall ensure ‘safety checklist’ as per ‘international safety guide’ and ‘pollution check list’ as per the Manual on Prevention of Oil Pollution before commencing cargo operations and at all times¹⁷¹. If any oil or pollutant is found floating near or around a vessel, the onus of proving that it was not discharged or allowed to escape from such

¹⁶⁴ *Id.*, rule 4

¹⁶⁵ *Id.*, rule 5

¹⁶⁶ *Id.*, rule 6

¹⁶⁷ *Id.*, rules 7, 8 & 9

¹⁶⁸ *Id.*, rule 10

¹⁶⁹ *Id.*, rule 11

¹⁷⁰ *Id.*, rule 13

¹⁷¹ *Id.*, rule 16 & 17

vessel shall be on the master of the vessel¹⁷². It is the responsibility of the master of the vessel to make available as per the IMO conventions and the Merchant Shipping Act, 1958 for verification and inspection and give all assistance in the process by the competent authority¹⁷³.

Conclusions

In August 2011, the vessel M.V.RAK sank off the coast of Mumbai, with 60,000 metric tonnes of coal on board. The cargo ship, which was on its way from Indonesia's Tutung to Dahej in Gujarat, had a 30-member crew of Indonesian, Jordanian and Romanian nationalities. All of them were rescued by defence personnel before it sank. An FIR was registered against the owner, captain and crew members of the vessel and a probe was ordered into the cause of the incident under the Indian Penal Code, i.e. for "act endangering life or personal safety of others" and for negligent spill of fuel oil because of the maritime casualty¹⁷⁴. Later both the captain and the chief engineer were released on bail of Rs.25000. A petition was also filed by a Bombay based Environmentalist before the National Green Tribunal. As per the National Green Tribunal Act, the person responsible for causing an adverse impact to the environment is liable to pay relief and compensation for the damage¹⁷⁵.

In a similar incident that had hit the coasts of New Mangalore, the Hong Kong vessel M.V. Asian Forest was given port of distress by the Indian Coast Guard and while anchoring it tried to stabilise the list by flooding its ballast tanks and by maneuvering the vessel. However, the vessel could not control its stability and dangerously listed to 45 degrees to port side and finally sunk off the Mangalore port. After many warnings were issued to the owners of the

¹⁷² *Id.*, rule 18

¹⁷³ *Id.*, rule 20 & 21

¹⁷⁴ The Indian Penal Code 1860, s.336

¹⁷⁵ The National Green Tribunal Act, 2010, s.17(1)

vessel of possible litigation being filed against them, after two years, salvage was arranged for lifting the sunken vessel.

The technical and procedural requirements prescribed by MARPOL Annex I are incorporated in the Merchant Shipping Act, 1958¹⁷⁶. In the recent past, many pollution incidents and maritime casualties have been reported in Indian ports because of improper cargo operations. The preliminary investigations on the grounding of M.V. RAK and M.V. Asian Forest had identified that the ships didn't comply with the requirements of the convention and the ports never applied the codes of safe practices as applicable to their different terminals. There was no effective coordination between the ship and the port. The "port-ship interface" guidelines were not adhered to. Hence, these incidents prove that the Ship and the port will have to complement each other by following applicable safety guidelines, codes and rules as applicable for the effective implementation of MARPOL Annexes.

The disposal of oil generated from ships is a hazardous substance and therefore its disposal has to comply with the provisions of the Hazardous Wastes (Management and Handling) (Amendment) Rules, 2002¹⁷⁷. The oil generated from ships like sludge, slops and dirty ballasts fall under the category of 'waste oil' under the rule¹⁷⁸. It has carcinogenic and toxic impacts on the port environment. Therefore, its safe disposal is a requirement not only for environmental safety but also for public health. The chief objective of legal control is to ensure this.

¹⁷⁶ The Merchant Shipping Act, 1958, part XII A

¹⁷⁷ Published under the notification of the Government of India in the Ministry of Environment and Forests number S.O. 553(E), dated 21st May, 2002 in the Gazette of India, Part-II, Section 3, Sub-section (ii)

¹⁷⁸ *Id.*, s.1(35) of the Act defines "waste oil" – which includes spills of crude oil, emulsions, tank bottom sludge and slop oil generated from petroleum refineries, installations or ships; and is unsuitable for re-refining, but can be used as fuel in furnaces if it meets the specifications laid down in Schedule 6

Generally before a ship enter into a major port in India, if it requires the PRF, will contact the agent, who is required to fill up the notification form under the port regulations, indicating the quantity of waste oil that has to be disposed and submit the same to the port authorities at least before 24 hours of its arrival. This time interval may be different for various ports. This request should be accompanied by the undertaking by the waste collector who is an authorized licensee of the Central and State Pollution Control Boards and Indian customs. The registration of these licensees is mandatory under the Hazardous Substances Rules¹⁷⁹. The license will be issued only upon the proof submitted by the waste collector that the waste oil reception plant installed for collection of waste oil is working in accordance with the specifications prescribed by the CPCB and SPCB and that the emission, effluent and treatment standards and disposal of waste oil is done as per the rules issued there by. Accordingly, “any waste oil which does not meet the specifications laid down in Schedule 6 shall not be auctioned or sold but shall be disposed of in hazardous wastes incinerator installed with air pollution control devices and meeting emission standards”¹⁸⁰. The CPCB and SPCB certainly are obligated to monitor this.

Upon receiving such requests, the port may grant these licensees permission to collect sludge and waste oil from the vessel. The private contractor is also required to submit bank guarantee and insurance policy for public liability. The permission is granted by the Port, if all the above documents are valid.

Sludge discharge is permitted only between 6 AM to 6 PM¹⁸¹. The clearance of sludge from the port area, custom formalities, treatment and disposal of waste are the responsibility of the contractor as per the relevant legislation. The list of authorized waste oil collectors or recycling/ processing companies is hosted in the websites of all major ports in India. The conservator

¹⁷⁹ The Hazardous Substances Rules , 1989, rule.9

¹⁸⁰ *Id.*, rule. 20

¹⁸¹ The Major Ports (Prevention and Control) of Pollution Rules, 1991, rule. 20

of ports is to ensure that the discharges are being done in accordance with the MARPOL regulations and that the technical specifications and procedural requirements as under the Merchant Shipping Act and the Indian Ports Act are complied with. If the provisions are violated, the provisions of the Indian Ports Act¹⁸² may be invoked so as to initiate criminal prosecutions against the offending officers and the shipping company. Yet this provision is very sparingly used unlike in the United States of America which follows deterrent punishments. They strongly believe that criminalization of seafarers would certainly prevent the incidents of willful violations of MARPOL. The adjudication of such crimes is very difficult in India because of the laws are not specific on this issue. Who is to enforce laws against who is a major concern!

The system operates through private contractors and unless there are clear rules for monitoring such operations there can be serious deterioration of prescribed standards. Also, it has to be seen where these waste oil collected ultimately reaches for safe recycling without causing any harm to the environment. Strict monitoring by the conservator of ports and the pollution control boards would plague the discrepancies. There is a pollution control cell in all major ports whose duty is to ensure safe discharge operations. In addition to this the conservator of ports is also obliged to ensure the same. Segregation of powers under different officers has made the monitoring and control regime extremely inefficient.

As per the central vigilance commission, if tenders are allotted without proper works manual, work may be contracted to same parties as per the whims and fancies of individuals, thereby renewing the contracts as such for many years¹⁸³. “A memorandum of the Rajya Sabha secretariat and reports from

¹⁸² The Indian Ports Act, 1908, s.21

¹⁸³ Chief Technical Examiner’s Organization, Central Vigilance Commission, “Common Irregularities/Lapses Observed in Award and Execution of Electrical, Mechanical and

Comptroller and Auditor General of India and a Parliamentary panel had highlighted a port sector scam, estimated at Rs 1.5 lakh crore, in which major discrepancies were found in the sector that had appointed cargo handling agents and disposing waste oil from the ports”¹⁸⁴. The report submitted by the Parliamentary committee on transport, tourism and culture identified that the private contractors appointed for waste oil disposal in major ports in India are unauthorized and there is a huge financial leakage though the government is reluctant to take any action on it¹⁸⁵. A comprehensive work manual set commonly for such contractors setting guidelines, procedures and standards for waste oil disposal may bring about better efficiency in the system.

The PRF procedure is cumbersome. Often the agent will have to get permission from customs, port and environmental agencies for disposing of the waste oil safely into the shore reception facilities. This may prompt the crew to bye-pass technology specified under the convention making illegal discharges into the coastal waters itself. The inadequacy of sufficient PRF in major ports is another constraint for MARPOL compliance.

There are reports that the discharge is being carried out in jetties at Mumbai port making the areas highly greasy, unsafe and unhealthy for general public. Every port is to have an environmental audit and submit the same to the Ministry of Environment and Forests through the port trust authorities. All major ports should also have Environmental Management Plan as per their needs and pollution risks in terms of cargo handled at the ports. In India, very few ports are having the Environmental Management Plan and the environmental auditing is not regularly conducted at ports. As a result, the

Other Allied Contracts and Guidelines for Improvement thereof”, *See*, <http://cvc.nic.in/COMMON%20IRREGULARITIES.pdf>, last accessed in December 2013

¹⁸⁴ Indronil Roy Chowdhury, “House Panel Reports Points at Discrepancies in Ports”, *The Indian Express*, dated 19th August 2013

¹⁸⁵ *Ibid*

seriousness of vessel sourced oil pollution issues in ports albeit being reported in major studies conducted under the auspices of various organizations are not promptly reported by the port trust to the Ministry of Environment and Forests. In many cases, the information supplied is contradictory to the scientific studies.

India's proximity to international trade route and her growing role as a maritime country suggests urgent need to amend existing laws on operational pollution by vessels and secondary rules thereon. At present, India does have large number of legislations to combat pollution from illegal discharge of oil, cargo residues but the system is fragmented. The control and monitoring systems under various Acts are not updated with the international regime and are inept to meet extreme contingencies such as a major oil spill.

In the U.S.A, the EPA has specific functions on marine pollution control but the Coast Guard has got ample powers of surveillance, monitoring and control of vessel entry. Hence, the USCG is playing a major role in eliminating substandard vessels from American ports. In this context, what India would require is a strong and consolidated marine environmental protection law clearly defining and balancing the roles of various authorities.

Often the costs involved in mitigating the effects of oil and other cargo spills cannot be estimated. Hence, it is better to strengthen the control and monitoring systems- a well-organized system with basic competencies, proficiency and authority to deal with extreme contingencies arising out of operational spills.

Chapter 5

CONTROL OF BALLAST WATER POLLUTION IN PORTS

Loading and unloading of ballast water is an important process in vessel operation. Large vessels would require thousands of tonnes of ballast water to ensure stability. Ballast water contains hundreds of species causing serious impacts over environment, public health and economy, if are carried to places where they are alien. Hence, ballast water management is very significant in controlling port pollution.

The Meaning of Ballast Water Pollution

The ballast literally means ‘any material that is used to balance an object to maintain its buoyancy’¹. A Ship need ballast water for stability and maneuverability, when she is empty or is partially loaded. This will have to be discharged subsequently when the ship is *in cargo*. The water quality and biological content of ballast water may vary depending upon the ship’s navigational route, whether it is in river or sea. The ship’s crew will have to adjust ballast level continuously and this depends upon its design and weather conditions and accordingly, the ballast water discharge may happen either in ports or in open seas².

¹ International Maritime Organization, International Convention for the Control and Management of Ships Ballast Water and Sediments, 2004, art.1(2), U.N. Doc. BWM/CONF/36

² Lisa A. Brautigam, “Control of Aquatic Nuisance Species Introductions via Ballast Water in the United States: Is the Exemption of Ballast Water Discharges from Clean Water Act Regulation a Valid Exercise of Authority by the Environmental Protection Agency”, 6 *Ocean and Coastal Law Journal* 33, (2001)

The ability of planktons, microbes and pathogens to pump into ship's ballast system and survive relatively long voyages, drifting in the ballast water till the end of the voyage was identified as early as 1897³. No wonder some scholars have described a ship's ballast tank as 'floating aquariums'⁴. Earlier, most of the ships were wooden and sailed on dry ballast. With the introduction of steel hulled vessels and water as the most economic form of ballast in usage, it is said that there can be up to 10,000 different species getting a free ride in ballast tanks of ships in global transport⁵. Mostly, the dark and toxic conditions inside the tank do not support photosynthesis and majority of these organisms end up their life inside the tank itself.

Yet, some organisms like the *holoplankton*, *meroplankton* or *tychoplankton*, *Chinese Mitten Crabs*, *European Green Crabs*, *Mussels*, *Whelks*, *American Jack Knife Clam*, *Comb Jelly fish* and *Vibrio Cholerae* have been reported to have survived in ballast water and multiplied at an alarming rate causing considerable disruption to the port environment if the aquatic conditions are hospitable⁶. These organisms may disrupt the physical condition of water in ports, affect fisheries and cause serious health and sanitation issues⁷.

³ Gollasch.S, et al., "Survival of Tropical Ballast Water Organisms During a Cruise from the Indian Ocean to the North Sea", 22 *Journal of Plankton Research* 923 (2000)

⁴ Sharonne O'Shea & Allegra Cangelosi, "Trojan Horses in Our Harbours: Biological Contamination from Ballast Water Discharge", 27 *University of Toledo Law Review* 381 (1996)

⁵ Nicholas Bax et al., "Marine Invasive Alien Species: A Threat to Global Biodiversity", 27 *Marine Policy* 313 (2003)

⁶ Steve Raaymakers, "The Ballast Water Problem: Global Ecological, Economic and Human Health Impacts", See, [http://www.imo.org/includes/blastDataOnly.asp/data_id%3D8595/Raaymakers Global ImpactsPaper.pdf](http://www.imo.org/includes/blastDataOnly.asp/data_id%3D8595/Raaymakers%20Global%20ImpactsPaper.pdf), last visited in December, 2013

⁷ For example, it is reported that in the countries around the Pacific Ocean the presence of *toxic dino flagellates* have been responsible for *red- tides* resulting in fish mortality and ultimately producing human neurotoxins causing serious health hazards for

Therefore, pollution of port environment by the introduction of harmful aquatic organisms, and pathogens through ships' ballast water as a vector has been identified as one of the four greatest threats to the world's oceans⁸. Also, the introduction of 'Non-Indigenous Species' into a foreign ecosystem is considered as a second major threat for biodiversity⁹. Reports on 'Harmful Algal Bloom' have established that the ballast water is an important vector for global dispersal of toxic micro algae¹⁰. The ballast water discharge should be controlled in ports because of three major reasons. First, it may cause port pollution, second, it may disrupt biodiversity and third, it may have negative impacts on human health.

Maritime ports in India are under rapid expansion with increased volume of trade especially, the oil imports. This may possibly introduce many more invasive species capable of polluting the port waters. The GLOBALLAST programme under the aegis of IMO had conducted a pilot study based on trading patterns in Mumbai and Jawaharlal Nehru Ports on the risk assessment of biological invasions through the ship's ballast¹¹. India's tropical or subtropical climate and its estuarine and lagoon ports favour the

humans feeding on them. See, N.V.Madhu, P.D.Reny, Meenu Paul, N.Ullas & P.Reshmi, "Occurrence of Red Tide Caused by *KaerniaMikimotoi* (toxic dino flagellate) in the South West Coast of India", 40 *Indian Journal of Geo Marine Sciences* 821 (2011)

⁸ Anil, A.C., et.al., "Ballast Water Risk Assessment, Ports of Mumbai and Jawaharlal Nehru, India: Final Report", (2003) GloBallast Monograph Series No. 11., IMO London, See, <http://globallast.imo.org/monograph%2011%20risk%20assessment%20India.pdf>, last accessed on 27th June 2013.

⁹ The United Nations Environment Programme (UNEP), 2002

¹⁰ G.M. Hallae Graeff & S. Gollasch, "Anthropogenic Introductions of Micro Algae", Quoted in GraneliE., Turner J.T.(Eds.), *Ecology of Harmful Algae*, Ecological Studies, Springer, (2006), pp. 379-390

¹¹ *Supra* n.8, at p. viii

spread of water-borne pathogens from ship's ballast water. Therefore, urgent attention is required to control the ballast water pollution in ports. Also, if secondary invasions spread to highly sensitive coral reefs of Andaman and Nicobar and Lakshadweep islands, the environmental threats may be beyond human predictions. Hence, India need appropriate laws to control this form of biological pollution from ships.

Evolution and Conceptual Analysis of Ballast Water Pollution under the United Nations Convention on the Law of the Sea, 1982

The earliest legislative attempts on control of ballast water pollution may be the United Nations Convention on Law of the Sea. The UNCLOS obligates equally all states to prevent this form of biological pollution. One of the significant questions that need to be answered is whether discharge of ballast containing pathogens falls under the definition of marine pollution or is it some other form of ecological harm? The answer to this question is a highly debated one. It could be construed positively as marine pollution from the provisions of the convention. Under the convention, marine pollution means,

“...the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities”¹².

¹² *Supra* n.1, art. 1(4)

Whether the expression ‘substances’ includes introduction of alien species seems doubtful. Some scholars opine that it includes the introduction of alien species, if it is producing deleterious and harmful effects in coasts¹³.

If ballast water containing harmful invasive species may be construed as ‘ship sourced marine pollution’ the provisions of operational pollution under MARPOL 73/78 may be applied or may be incorporated with minor amendments thereto and also at domestic levels. In that case there is no need for a separate convention.

The problem of untreated discharge of sewage from on board a vessel is already accommodated under MARPOL 73/78. The ballast contains diluted form of sewage. What the ship does is just taking in sewage containing water from one port and discharging it into a different ecosystem. The ship is just a transporting link. In that case, it could be made liable for causing intentional pollution at the discharge ports. The precautionary principle may not work out in such cases.

The actual causation of ballast water pollution is the reluctance of coastal state in properly disposing the municipal sewage and other land based sources of pollution. It is well understood that states have been reluctant in admitting the political, social and economic causes of pollution. Moreover, there are diverse problems associated with ballast water discharge and marine pollution is one among them. Hence, the UNCLOS regime of marine pollution control may be extended over it based on the impact or potential harm it may cause to the port ecosystem disregarding the exact classification of the causal agent.

The introduction of invasive pathogens such as *vibrio cholera* can be recognized as marine pollution instead of treating it as just a human health hazard. Traditionally the situation was categorized under the International

¹³ E. Molenaar, *Coastal State Jurisdiction Over Vessel-Source Pollution*, International Law and Policy Series, Vol. 51, The Hague, Kluwer (1998), p.20

Health Regulations but contemporary thinking links health and environmental aspects in order to ensure bio-security¹⁴.

The United Nations Convention on Law of the Sea calls for prevention, reduction and control of accidental or intentional introduction of species into the marine environment¹⁵. All states have a duty to protect and preserve the marine environment¹⁶. This duty includes prevention of marine pollution and protection of rare and fragile ecosystems, depleted habitats, and threatened or endangered marine species from all sources of pollution¹⁷.

The convention allows all states to take measures ‘to prevent, reduce and control pollution of the marine environment from ‘any’ source¹⁸. The ballast water containing NIS detrimental to or causing phenomenal changes to a part of the marine environment is a form of marine pollution. The definition

¹⁴ “Conclusions of the Co-chairs from the first Intergovernmental Review Meeting on the Implementation of the Global Programme of Action for the Protection of the Marine Environment from Land based Activities”, *See*, <http://www.gpa.unep.org>, last accessed in June 2013

¹⁵ The U.N. Convention on the Law of the Sea, 1982, art. 196(1) reads, “ *States shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control, or the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto; Art. 196(2): This article does not affect the application of this Convention regarding the prevention, reduction and control of pollution of the marine environment.* ”

¹⁶ *Id.*, art.192

¹⁷ *Id.*, art. 194(1)- (5)

¹⁸ Article 196 originates from Article 192. Yet Article 192 clearly does not establish the source of this form of marine pollution. this conclusion is reached when reading together Article 196 with Article 192 and Article 194(5)

of “dumping” does not accommodate ballast water pollution¹⁹. Hence, it may be safely categorized as ship sourced operational pollution.²⁰

If ballast water is treated as a source of operational pollution by ships, by giving due publicity of the port entry requirements, the coastal state can effectively regulate access to ships violating the ballast water discharge standards²¹. They can also take necessary action against violations when the ship is at port or its territorial sea²². This right includes the right to enact intensive legislation on the topic, provided the requirements should not hamper the right to innocent passage through the territorial sea²³. Physical inspections could be done in accordance with international requirements, when there is ample evidence for doing so, avoiding unnecessary delays and hardships to the vessels²⁴. Apart from these general rights, UNCLOS does not specifically address the issue of seeking permission of the coastal state during ballasting or de-ballasting.

Flag states do have the responsibility of establishing minimum international standards to control ballast water pollution by legislating and

¹⁹ UNCLOS, art. 1(5)(b) reads that, “*dumping*” does not include:

(i) the disposal of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or structures;

²⁰ *Id.*, art.194 (1) and (3)

²¹ *Id.*, art.211(3).*See*; R. R. Churchill and A. V. Lowe, *The law of the sea*, Manchester Press, Manchester, (1999), pp.62-65; *Nicaragua v. United States*, (1986) ICJ Rep. 14 at p.111

²² *Id.*, art.25(2)

²³ *Id.*, art.24

²⁴ *Id.*, art.226(1)(a)

enforcing the same over vessels registered in their countries²⁵. This responsibility includes the inspection of vessels to verify the records and to see that the construction, design, equipment and manning standards on ballast water discharging as per the international requirements are being carried out properly²⁶. Flag states have the duty to see that warships and other non-commercial vessels also comply with these standards²⁷. The UNCLOS also calls for regional and global co-operation for the protection and preservation of marine environment. This includes all measures to eliminate the risks of ballast water pollution²⁸. States have the responsibility to provide adequate compensation in their legal systems for damages caused by ballast water pollution²⁹.

The provisions of UNCLOS are designed mainly to eliminate conflict between nations engaged in international trade. They provide ample space for domestic remedial regime but are often criticized for creating rooms for unilateral enforcement measures. They concentrate on balancing of rights and responsibilities and cannot be said to provide accurate remedial measures³⁰. Hence, there was the need for a specific convention.

Control of Ballast Water Pollution under the Rio Declarations and Agenda 21

Out of the twenty seven key principles set out by the Rio Declaration, the precautionary and the polluter pay principles may be applied to the control of ballast water pollution³¹. The International Convention on Biological Diversity

²⁵ *Id.*, arts.211(2) & 217(1) (4)

²⁶ *Id.*, arts.217(2) (3)

²⁷ *Id.*, art.236

²⁸ *Id.*, arts. 197-201

²⁹ *Id.*, art.235

³⁰ E. Molenaar, *Supra* n.13

³¹ *Rio Declaration on Environment and Development*, Principles.15–16, U.N. Doc. A/CONF.151/5/Rev.1 (1992)

calls for the protection of biodiversity, including marine bio diversity³². Soft laws like the *Agenda 21* also calls upon nations to consider regulating ballast water discharge to prevent the spread of non-indigenous organisms³³.

Control under the MARPOL 73/78 Regime

The original objective of MARPOL 73/78 was to respond to marine pollution from the “deliberate, negligent or accidental release of oil and other harmful substances from ships...” and to eliminate “intentional pollution of the marine environment by oil and other harmful substances and the minimization of accidental discharges of such substances...³⁴”. Under the convention, harmful substances mean to include

“...any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substance subject to control by the present Convention...”³⁵

Like the UNCLOS, it also defines discharge from dumping,

“...Discharge, in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling or leaking, pumping, emitting or emptying...”

³² The Convention on Biological Diversity, 1992, art. 8(h), 31 I.L.M. 818

³³ The United Nations Conference on Environment and Development, Rio de Janeiro, “Report”, ch. 17.30 (a) (vi), U.N. Doc A/CONF. 151/26, See, http://www.un.org/esa/sustdev/documents/docs_unced.htm, last accessed in June 2012

³⁴ The Preamble of MARPOL 73/78

³⁵ MARPOL 73/78, art.2(1)

Hence, there was a deliberate attempt to include ballast water pollution under a separate annex. Even though, a separate convention is established to control this form of pollution, MARPOL 73/78 would still be considered important because many states may treat ballast water pollution as ship source operational pollution in the absence of a definite international and national legislation on the topic. As of now, the provisions of the CBD and MARPOL 73/78 as regards the bio invasions run concurrently. Unless they complement each other the replication of surveys and certifications can make the enforcement highly cumbersome and inefficient.

Safety Control under the SOLAS 74

Ship's stability and safety are closely linked. The provisions of Safety Convention and the ISM code are applicable to the ballast management operations. With the adoption of the Convention on Biological Diversity, 1992 sufficient changes need to be made to the SOLAS 1974 and ISM Code in order to efficiently implement the provisions for controlling the ballast operations safely. The ballast water exchange, irrespective of the place of discharge should be consistent with the provisions of SOLAS³⁶.

Conceptual Basis under Other International Laws

A series of international laws are applicable to the ballast water management³⁷. From the above discussion, it can be seen that ballast water pollution is an important form of ship sourced marine pollution. It is also a

³⁶ SOLAS 1974, Ch. II -1, Reg. 22

³⁷ Some of these are the Antifouling Convention, 2001, the International Health Regulations, 2005, the International Plant Protection Convention, 1951, the Aquatic Animal Health Code, 2005, the ICES Code of Practice on the Introduction and Transfer of Marine Organisms, 2006, the Convention on the Law of the Non-navigational Uses of International Watercourses, 1997, the Food and Agriculture Organization's Code of Conduct for Responsible Fisheries, 1995, and most important, the World Trade Organization's policy of free trade and open markets, 1948.

unique source of pollution creating multiples challenges for bio-security. Hence, there is urgent need of a specific legislation to control it.

The Ballast Convention, 2004

In the early 1990s, the IMO through its Marine Environment Protection Committee³⁸, started studies on the negative impacts of ballast water pollution on the port environment. The concerns of international community about this form of marine pollution were triggered by the zebra mussel invasion of the U.S and the Canadian waters. Subsequently, the United Nations General Assembly passed a Resolution³⁹ to prevent ballast water pollution⁴⁰. It was understood by this time that the problem of ballast water pollution cannot be eliminated completely. Thus the guidelines were modified in 1997 setting better ballast management practices which the states could adopt by means of their national legislation⁴¹. The guidelines were meant to assist nations to enact domestic laws for minimizing and eliminating the risks associated with the ballast water discharge. There emerged a plethora of divergent practices among states as the guidelines were binding laws.

³⁸ Herein after to be referred to as the MEPC

³⁹ The U.N. General Assembly Resolution A. 774(18)

⁴⁰ The IMO Assembly Resolution A.774(18), "Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ship's Ballast Water and Sediment Discharges", 1993, *See*, www.imo.org, last accessed in June 2012.

⁴¹ The IMO Resolution A.868 (20), "Guidelines for control and management of ships' ballast water to minimize the transfer of harmful aquatic organisms and pathogens", 1997, *See*; Moria L. McConnell, "Ballast and Biosecurity: The Legal, Economic and Safety Implications of the Developing International Regime to Prevent the Spread of Harmful Aquatic Organisms and Pathogens in Ships' Ballast Water", 17 *Ocean Year Book* 213 (2003)

An Overview of the Ballast Convention, 2004

The Ballast Water Working Group of IMO drafted a new convention on Ballast Water Discharge Standards⁴². The Convention is not yet in force⁴³ but it aims to prevent, minimize and finally eliminate the ballast water pollution.

It is a complex convention with almost 22 articles, regulations and 1 annex detailing general obligations of states to implement the technical requirements. It has an appendix setting model formats for the issuance of International Ballast Water Management Certificate and Ballast Water Record Book. A plain reading of the convention would give the impression that like all international treaties this convention is also not an exception but a compromise of various maritime interests.

It is the duty of every member state to give “full and effective implementation” of its provisions⁴⁴. The flag state should manage the ballast water so as to ‘prevent, minimize and ultimately eliminate the transfer of aquatic organisms and pathogens’⁴⁵. Every state should establish a national policy as to ballast water management⁴⁶.

Ballast Water Exchange and Ballast Water Exchange Areas

Ships are to exchange a minimum of 95% of the ballast volume⁴⁷. It requires that the discharge of ballast water should have maintained organism

⁴² The International Convention for the Control and Management of Ships’ Ballast Water and Sediments, 2004 herein after to be referred to as the BWC

⁴³ See, www.imo.org/statusofconventions.

⁴⁴ The International Convention for the Control and Management of Ships’ Ballast Water and Sediments, 2004, art.2(2)

⁴⁵ *Id.*, art.2(1)

⁴⁶ *Id.*, art.4(2)

⁴⁷ *Id.*, reg. D-1 Ballast Water Exchange Standard

concentrations below the specified limits⁴⁸. The ballast water performance standards are based upon the ship's age and capacity and are very stringent. Some scientific studies put forth that 95% volumetric exchange may not result in 95% organism removal. Also sometimes, the set volumetric limits may result in even higher organism removal⁴⁹.

The convention prescribes that the ship shall undertake ballast water exchange⁵⁰ at 200 nm from the nearest land and in water depths of 200m. If it is not possible BWE may be done at least 50nm from the nearest land and at 200m in depth. At emergency situations, when the prescribed distance and in-depth measures cannot be met, the port states may designate BWE areas keeping into consideration the time required, shipping route and safety requirements⁵¹. For example, coastal ships may be using routes close to shores and may not fall under the category of vessels for which the said provisions of BWE may be applicable. Hence, the port state may prescribe BWE areas for such ships.

Practicalities suggest that the selection of BWE areas may be highly challenging for port states. BWE is a temporary mechanism and scientific studies have proven that it is not very effective many a times. The water depths and distance specified under the convention cannot be met always. For example, the convention provides that when prescribing BWE areas, the state should not cause undue delay for ships. Many countries have rules requiring ships to take routes distant from the shores in order to minimize the risks of maritime casualties. If the coast guards require the ship to take specific routes, definitely it may cause delay for the vessel. The developing countries with less

⁴⁸ *Id.*, reg. D-2 Ballast Water Performance Standard

⁴⁹ K.R. Murphy, et.al, "Heterogeneous zooplankton distribution in a ship's ballast tanks", *24 Journal of Plankton Research* 729 (7) (2002)

⁵⁰ Hereinafter to be referred to as the BWE

⁵¹ The Ballast Water Convention, s. 2.2

sophisticated infrastructural capabilities may be even more affected by this provision as unnecessary delay may make them liable to pay heavy compensation to the vessel owner.

Scientific studies have established that an environmentally ballast may be done 'as far from the nearest land and as deep as possible' in order to eliminate the risk of pollutants and pathogens. It should also be close to shipping routes if it were not to cause delay in voyages. The convention provides for BWE at high seas under the assumption that the high sea organisms may not survive in coastal waters and vice versa. But studies have reported that after the discharge at high seas, more organisms were found inside ballast tanks⁵². Also, one time exchange may not eliminate the organisms that are settled in sediments inside the ballast tanks. Hence, it is said that the given requirements for BWE seem to be totally inapt and inadequate the risk of pollution associated with the BWE.

The consultation with adjacent coastal states also seems to be significant before designating BWE areas in order to avoid controversies. In this regard, the G14 guidelines may be useful for the port states. The practical difficulties to fix responsibility to monitor such areas biologically may also ignite disputes.

Ballast Water Performance Standards

The guidelines prescribe the acceptable number of micro-organisms and the method of determining their size and classes⁵³. This has been a topic

⁵² T. Mc Collin, et.al., Investigations into ballast water exchange in European regional seas, paper presented at the International Conference on Marine Bio invasions, New Orleans, April 9–11 (2001), pp. 94–95

⁵³ *Id.*, reg. D-2 reads, "less than 10 viable organisms per cubic meter greater than or equal to 50 mm in minimum dimension, and less than 10 viable organisms per ml less than 50 mm in minimum dimension and greater than or equal to 10 mm in minimum dimension, and less than the following concentrations of indicator microbes, as a human health standard:

for significant discussion and has already raised several crucial issues. Yet this provision seems to be a compromise. These standards are set without taking into account the human health aspect. They are purely technical because they aim at reducing the microbe content in the ballast water but not much effort has been put to set mandatory the rules for identification of the species type. The standards set may not eliminate the risk of species introduction in all cases. Also, it does not specify the species introduction below 10 viable organisms below cubic metre, whereas, studies have established that a considerable number of harmful algae exist below this minimum dimension prescribed under the convention. These specifications are applicable for ships alone and it is not clear whether these standards are applicable to on board and treatment systems. Unless the treatment technologies are also brought under the provisions of the convention, complete elimination of pathogens may not be possible. All ships are to set these requirements by the end of the year 2016⁵⁴. The MEPC may propose amendments to the said provisions as and when required⁵⁵. In order to enforce the BWC requirements of performance standards, the approval of the administration is essential and the Guidelines on ship and crew safety should be strictly implemented⁵⁶.

-
- Toxigenic *Vibrio cholerae* (serotypes O1 and O139) with less than 1 colony forming unit (cfu) per 100 ml or less than 1 cfu per 1 g (wet weight) of zooplankton samples,
 - *Escherichia coli* less than 250 cfu per 100 ml, and intestinal *Enterococci* less than 100 cfu per 100 ml.”

⁵⁴ The BWC, reg. B-3

⁵⁵ *Id.*, reg. D-5

⁵⁶ *Id.*, reg. D-5(1) & D-3

Surveys and Certifications

The rules regarding survey and certification of BWM for the flag states are given under the Annex⁵⁷. Ships have to undergo initial⁵⁸, renewal⁵⁹, intermediate⁶⁰, annual⁶¹ and additional surveys⁶². The ship gets its first ballast water certificate after the initial survey, which is valid for next five year. It may be cancelled or withheld at any time for non-compliance⁶³

Port Reception Facilities under the Guideline

The BWE is not applicable for ships intending to use port reception facilities provided the guidelines G5 is to be followed. Yet, it is not mandatory under the convention that the Port states should provide for reception of ballast water exchange. This would require exorbitant expenses as new pipeline connections need to be installed both on board vessels as well as in ports. This would be a huge problem in big ports.

⁵⁷ *Id.*, art.7.1

⁵⁸ *Id.*, reg. E-1(1).1. This survey is done before the ship is put into service for the very first time to ensure that the ship's BWMP, structure and all systems are in accordance with the BWC requirements

⁵⁹ *Id.*, reg. E-1(1).2. This survey is done after 5 years after the initial survey to find out strict compliance of the provisions of the BWC

⁶⁰ *Id.*, reg. E-1(1).3. This survey is like the Annual survey may be put into its place to ensure BWC compliance after the completion of one year of service or fewer as the administration finds it necessary

⁶¹ *Id.*, reg. E-1(1).4. This is the general annual inspection to see the BWC compliance.

⁶² *Id.*, reg. E-1(1).5. Additional survey is conducted after a major structural change or replacement has been effected to the ship and thereby to verify the compliance of BWC requirements

⁶³ *Id.*, reg. E-1(1).6

Emergency Situations

If due to adverse weather conditions, the BWE is not possible at mid seas or no area has been designated by the port states and no reception facilities are available on shore, then the ship is allowed to discharge ballast water anywhere at 50nm from the nearest land, provided the ship will have to document why the BWE was not carried out. It shall be the discretion of the Master to decide that such "...exchange would threaten the safety or stability of the ship, crew, or passengers because of adverse weather, ship design limitations, structural stress, equipment failure, or any other extraordinary condition"⁶⁴ and thus seek an exemption from the BWE requirements. The situations which had necessitated the exemption of BWE requirements should be entered in the record book⁶⁵. The main criticism about the said provisions of BWE is that it does not eliminate completely the species introduction but stresses more on ballast water management.

Authorization of Ballast Water Management System

The guidelines⁶⁶ G8 provides for approval of ballast water management systems so as to comply with D-2 requirements. Unlike the tests and approval under the MARPOL regime, the ballast water approval system is very stringent. It has to satisfy both land based and ship on board tests within a duration of 6 months. The land based test has to be done under several challenges. For example, selection of sampling locations and maintaining of proper quality management and quality assurance of sampling done under limited technology and supervision are all challenges for port states. The ship board sampling has to meet both practical challenges as well as biological efficacy as prescribed under the guidelines. The failure of the sampling may result in heavy loss to the ship owner as exorbitant cost is involved to fulfill the

⁶⁴ *Id.*, reg. B-4(4)

⁶⁵ *Id.*, reg. B-4(5)

⁶⁶ *Id.*, G-8

G8 requirements. If the treatment system uses some active substances such as chemicals or generating agents in the water flow, it would also require approval under the G9 guidelines issued by the IMO.

Port State Control on Sampling Techniques

The Guidelines G2 provides for various port state control inspections to assess the sampling quality required under the regulations. Accordingly, a ship should have on board a ballast water management certificate⁶⁷. There should be a verified ballast management plan for every ship, which is approved by the flag state⁶⁸. The port state control officers should undertake an inspection of the ballast water record book⁶⁹. Inspections are done to authenticate that the ship has a valid international ballast water management certificate, ballast water record book and sampling of the ship's ballast water. In case of violations, more detailed inspections could be carried out to ensure that it will not carry out ballast discharge deteriorating the port environment⁷⁰. The convention empowers member nations to set higher and stringent sanctions for violations in tune with the international law⁷¹. The major criticism about the port state control inspections requirements of the sampling techniques is that it

⁶⁷ *Id.*, art. 9.1

⁶⁸ *Id.*, reg. B-1 reads, "The Ballast Water Management Plan (BWMP) should detail safety of the ship and crew, implementation plans, techniques for sediment disposal on shores, coordinating ballast management at ship board and land based treatment systems, ship board officer in charge of BWMP and the reporting of BWM."

⁶⁹ *Id.*, reg.B-2(1)-(6) reads, "Every time the ship makes a ballast water discharge or exchange, it should be entered in the Ballast Water Record Book. This record book should be available for inspection at any time and the Master of the ship has to give certified copy of this record, which may be admissible as evidence in judicial proceedings."

⁷⁰ *Id.*, arts.9.2 & 9.3

⁷¹ *Id.*, arts.1.1, 8,8.2 & 10

provides for only demonstration of non-compliance and not demonstration of compliance of specified standards.

Selective and Blanket Approaches to Ballast Water Management

The BWC provides for a selective and not blanket approach⁷² to ballast water management⁷³. Accordingly, ships are to comply with BWM in port in accordance with their level of risk assessed. Each state has to comply with the ballast water policy, strategy and implementation based upon its conditions and capabilities⁷⁴. The main disadvantage of the selective approach is that it requires higher efficiency and skills from the port state control officers, more stringent and extensive data gathering for the port states and data reporting and other requirements for the vessels.

In an effort to reduce the risk associated with the BWE, the convention puts extra burden and responsibilities on the port states as to the creation of treatment technologies, port reception facilities and designation of BWE areas⁷⁵. The convention empowers state parties to adopt more stringent measures, implementing higher level of protection. Hence, it may ultimately result in disparity as to the laws controlling this form of marine pollution. It is indeed a recognized principle that marine pollution can be controlled effectively only by setting uniform standards of control at the international level and co-ordinated efforts of control through regional bodies⁷⁶.

⁷² *Id.*, art.4.2

⁷³ Here in after to be referred to as the BWM

⁷⁴ The Ballast Convention provides for less stringent rules under Regulation A-4 for ships posing low risk and additional measures under C-1 for high risk vessels

⁷⁵ The BWC, 2004, arts. 5.1 & 12

⁷⁶ *Id.*, art.2.9 & 13, the convention provides for regional co-operation for eliminating ballast pollution. Accordingly, member states must cooperate under the aegis of the IMO to address threats and risks to marine ecosystems and biodiversity in areas beyond the territorial jurisdictional limits

Effect of Non Ratification of the BWC by a State

Non-state parties are to comply with the convention in ports of a state party⁷⁷. Hence, even if India is not a signatory to this convention, Indian ships in foreign ports of a state party should comply with BWC requirements if they wish to trade in that region. Conversely, foreign ships not complying with BWC would get an easy entry to Indian ports which may be highly detrimental to the country's port ecosystem. Hence, it is high time that India should ratify this convention.

A Critical Appraisal of the Ballast Convention

The international law on control of ballast water pollution is still in its infancy, the convention is not in force yet. The reasons are several. The BWC is basically an attempt to harmonize the conflicting concepts of international trade requirements and protection of bio-diversity. It takes a balanced precautionary approach in preventing the spread of invasive organisms by merely prescribing the minimum international standards. Regarding its implementation, port state and flag state jurisdictions run concurrently. It contains detailed sampling techniques and performance standards. It also gives ample opportunity for the port states to enact even more powerful laws for the prevention of bio-invasions. This provision enables a port state to enact laws controlling ballast water pollution taking into consideration local conditions and requirements. It may lead to divergent standards of control at international level. The convention is not adequate in suggesting solutions for the complete elimination of bio invasions. The convention prescribes for mid ocean BWE, or BWE in designated areas but remains silent as to how the ports states should designate areas for the same. It is silent on the aspects of liability for bio-invasions and efforts to reduce harmful effects of species that have already been introduced.⁷⁸

⁷⁷ *Id.*, art.3.3

⁷⁸ Lance K. Terpstra, "There Goes the Neighbourhood"—The Potential Private Party Liability of the International Shipping Industry for Exotic Marine Species Introduction

The facilities to conduct sampling may vary in different countries. Therefore, there are chances of delay in issuing port clearance for some ships. In such cases, port states may be liable to pay compensation under the existing regime. The convention does not address this problem. It would have been better if the member states could share technology transfer in creating sampling testing laboratories in developing countries. The monitoring of the control systems under this convention could not be accomplished without imparting proper training to the port officers and equipment transfer.

As of now, the convention is highly criticized for its inadequacy in providing for commercially viable technology solutions to create long lasting results to the problem of bio invasions. The only solution it could offer is BWE in mid ocean which is primarily a risk avoidance method.

Indian Law on Control of Ballast Water Pollution

Every year more than ten billion tonnes of ballast water are transferred between ports. Depending upon its size and purpose, a ship may carry several hundred tons of ballast water⁷⁹. India has been one among the six pilot countries identified under the GloBallast Programme initiated by the IMO for creating awareness and for conducting study on the harmful effects of bio-invasions in ports. The study was conducted mainly at the Mumbai and the Jawaharlal Nehru ports. It states that like in many other parts of the world, the awareness on this crucial environmental issue is minimal to non-existent among various stakeholders of the industry⁸⁰. Scientific research in India on

via Ballast Water in England”, 11 *Transnational Law and Contemporary Problems* 277 (1998)

⁷⁹ The International Maritime Organization (IMO), “Alien invaders—putting a stop to the ballast water hitchhikers,” *Focus on IMO* (London), (1998), p.1, available at <http://www.imo.org> , last accessed in June 2013.

⁸⁰ Report of the Pilot Study, Globallast, *See*, http://www.globallastwaterindia.com/images/shell_brochure.pdf, last accessed in June 2013

bio pollutions of the sea is still in the budding stage which has created complications for the administration in designing a proper regulatory regime⁸¹. As the number of vessels visiting Indian ports increases day by day, the risk associated with bio-invasions increase⁸². Even though ballast water discharge from ships is not the sole source of bio-invasions, it is a major contributor⁸³. Hence, it is high time that India should legislate exclusively on the topic.

India does not have a direct and comprehensive law to control the harmful effects of bio invasions through the ballast water discharges from ships. Yet this does not exempt India from its obligations to enact a comprehensive ocean management law. India is a party to UNCLOS III and is under obligation to enforce its provisions at domestic level. This includes protection of marine environment from biological pollution. In the *Research Foundation for Science., Technology & Natural Resource Policy v. Union of India*⁸⁴, considering the inadequacy of environmental jurisprudence in India, the Supreme Court of India has grounded its decisions on standards set in unincorporated international agreements based on the premise that these conventions “elucidate and go to effectuate the fundamental rights guaranteed by our Constitution [and therefore] can be relied upon by Courts as facets of those fundamental rights and hence enforceable as such.” Hence, India is obligated to ratify BWC and enact domestic legislation for its implementation. In *Essar Oil Ltd. v. Halar Utkarsh Samiti*⁸⁵, the Supreme Court had referred to

⁸¹ *Id*

⁸² *Id.*, around 5000 ships call annually at the Mumbai port, discharging about two million tonnes of Ballast water

⁸³ D.V. Subba Rao, “Comprehensive Review of the Records of the Biota of the Indian Seas and Introduction of Non-indigenous Species”, 15 *Journal: Aquatic Conservation: Marine Fresh Water Ecosystems* 117 (2005)

⁸⁴ 2005 (10) SCC 510

⁸⁵ [2004] 2 SCC 392

the 1972 Stockholm Conference on the Human Environment is the “*Magna-Carta of our environment*” and had imported into domestic law the concepts such as the “*sustainable development, polluter pays and the precautionary principles*”⁸⁶. Hence, there is no doubt regarding India’s obligation to control ballast water pollution. Even if it has not ratified the BWC, still there is obligation under the customary treaty law to give effect to its provisions.

Under the existing system the major difficulty would be to identify the nature of the problem of ballast pollution, i.e. whether it is a ship sourced operational pollution or a problem of bio diversity or a health hazard? If identified as a form of ship sourced operational pollution should India follow a centralized or decentralized regime of control?

In this study the primary analysis would be about the effectiveness of the control regime when ballast pollution is treated as source of vessel sourced operational pollution in ports with incidental effects on bio-diversity and human health. If ballast water pollution is categorized as a ship sourced operational pollution, the provisions of the Indian Ports Act, 1908 and the Merchant Shipping Act, 1958 may be applicable to control it. The reports on increasing numbers of bio invasions and its ill effects suggest that the system of control is inept.

Regulatory Regime under the Indian Ports Act, 1908

The Government may make port rules for regulating vessels while discharging ballast in ports⁸⁷. The conservator is the authority to monitor improper discharge of ballast in port area. If ballast or any rubbish or oil containing ballast mix has been improperly discharged within the port area, the conservator may serve notice to the Master of the vessel may be punished with

⁸⁶ *Vellore Citizens Welfare Forum v. Union of India*, [1996] 5 S.C.C. 647, *Indian Council for Enviro-Legal Action v. Union of India*, A.I.R. 1996 SC 1446; *Mehta v. Union of India*, [1996] INSC 1661

⁸⁷ The Indian Ports Act, 1908, s. 6(1) (e)

up to one year and to a fine up to five lakh rupees⁸⁸. The provisions are not applicable if the discharge happens with the consent in writing of the Conservator of Ports or if any such acts have been authorized by the Government⁸⁹. The Indian Ports Act, 1908 being a vintage law still considers ballast as solid and prohibits its discharge, if it is likely to form a bank or shoal or turn out to be a hindrance to navigation.

Regulatory Regime under the Merchant Shipping (Amendment) Act, 2003

The Act defines “ballast” as “any solid or liquid placed in a ship to increase the draft to change the trim, to regulate the stability, or to maintain stress load within such limits as may be prescribed⁹⁰.” This definition excludes the settled sediments in ballast tanks within the meaning of ballast. The settled sediments in ballast tanks often create recurrent challenges to those engaged in BWM in their efforts to prevent bio-invasions. The laws of countries like Canada, the definition of ballast include settled sediments⁹¹.

The Merchant Shipping Act, 1958, apply to marine casualties or acts relating to such casualties with grave and imminent danger of pollution or threat to pollution from deliberate, accidental or negligent ballast water discharge into sea or such incidents in high seas⁹².

Under the Merchant Shipping Act, 1958, the ballast water pollution is recognized only as incidental to potential source of ship board oil pollution rather

⁸⁸ *Id.*, s.21

⁸⁹ *Ibid*

⁹⁰ The Merchant Shipping Amendment Act, 2003, s. 2 gives definition of “Ballast”. Shipping Act, No. 44 Of 1958

⁹¹ The Ballast Water Control And Management Regulations, s.1, SOR/2006-129 (Can.), *See*, [Http://Canadagazette.Gc.Ca/Partii/2006/20060628/Pdf/G2-14013.Pdf](http://Canadagazette.Gc.Ca/Partii/2006/20060628/Pdf/G2-14013.Pdf), last accessed in June 2013

⁹² The Merchant Shipping (Amendment) Act, 2003, s.356A(1)(B)

than pollution causing bio hazards⁹³. As such there is mandatory requirement to keep the Oil Record Book and international oil prevention pollution certificates⁹⁴. These provisions are intended to give effect to Annexures of MARPOL 73/78 which lay emphasis on ship sourced oil pollution. They are totally inadequate to control the drastic consequences of bio invasions⁹⁵.

Control under Other Laws

The central government can regulate ballast water pollution under the provisions of the Environmental Protection Act, 1986, the Hazardous Waste Management and Handling Rules, 1989 and the Coastal Zone Management notifications, 1992. These laws lay down broad spectrum of control and may be assumed to have general application on the control of ballast water pollution. But the provisions in no way could comply with international requirements so as to check bio invasions and its multidimensional harmful effects.

Environmental Laws Empowering State Governments to Control Ballast Pollution

The definition of “pollution” under the Water Prevention and Control of Pollution Act, 1974 can be interpreted to include ballast water pollution also⁹⁶.

⁹³ The MSA 1958, Part XIA, s. 356 C(I)

⁹⁴ *Id.*, ss. 356 (C) (1)-(3) and 356 (F)

⁹⁵ The Director General of Shipping, “Guideline for Maintenance of Oily Water Separator and Filling up of the Oil Record Book (Machinery Space Operations), 3.5 A & B”, Engineering Circular No.71, 2006

⁹⁶ The Water (Prevention and Control of Pollution) Act, 1974, s. 2(e) reads, “pollution” means ‘such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.”

The provisions of the Water Act are applicable to ‘streams’, which include, “sea or tidal waters to such extent or, as the case may be, to such point as the State Government may, by notification in the Official Gazette, specify in this behalf”⁹⁷. Thus the State Pollution Control Board or the Central Pollution Control Board may check and control ballast pollution effectively under the scheme of the Water Act.

The State Government may also exercise control over this form of pollution by invoking the provisions of the Wild Life Protection Act, 1972⁹⁸.

The American Model of Control

As soon as the problem of Zebra mussels invading the Great lakes was identified, the United States Congress had passed the Non-indigenous Aquatic Nuisance Prevention and Control Act, 1990 in the very next year⁹⁹. This was amended by the National Invasive Species Act, 1996 by making it enforceable in the U.S. Ports¹⁰⁰. Both these legislation gave the United States Coast Guard enormous powers to control the ballast water pollution. A series of rules and regulations most important being the ballast water regulations are issued by the USCG to control this form of pollution in the U.S. Ports and the U.S. Waters¹⁰¹. The BWR provides for minimal ballast water exchange in order to

⁹⁷ *Id.*, s. 2(j)(v)

⁹⁸ The Wildlife (Protection) Act, 1972, schedule. 1

⁹⁹ The Non-indigenous Aquatic Nuisance Prevention and Control Act, 1990, 16 U.S.C. §§ 4701–51 (2000); *See*, Jason R. Hamilton, “All Together Now: Legal Responses to the Introduction of Aquatic Nuisance Species in Washington through Ballast Water”, 75 *Washington Law Review* 251 (2000)

¹⁰⁰ The National Invasive Species Act, 1996, 16 U.S.C. §§ 4701–51 (2000)

¹⁰¹ The Declaration by vessels entering Great Lakes Area that no ballast on board, 70 Fed. Reg. 51831–01, 51835 (2005) (Aug. 31, 2005); the Mandatory Ballast Water Management Program for U.S. Waters, 69 Fed.Reg. 44952–01, 44953 (July 28, 2004); Penalties for Non-Submission of Ballast Water Management Rep., 69 Fed. Reg. 32864, 32868 (June 14, 2004); Coast Guard Vessels Carrying Oil, Noxious Liquid Substances,

maintain stability in the U.S. Ports and the U.S. Waters and encourages mid-ocean exchange. It also provides for specific ballast water management practices. There are also provisions for eco-friendly technology offering solutions for ballast water exchange and performance standards prescribed under the BWC. It has specifications on periodic monitoring by the USCG of the BWMP and self-regulatory submission of timely reports on BWE by the master and crew. Specifications also insist on sufficient training and frequent mock trials for the crew on BWMP. Under no case, BWE is permissible in eco sensitive areas and heavy penalty, both civil and criminal will be inflicted upon willful violators. Several executive orders also check the BWE in the United States ports. An Invasive Species Council has been set up to advise the Federal agency and to establish a National Invasive Species Management Plan. In addition, several U.S. States have legislated exclusively on this topic thereby empowering the respective governments to control this form of pollution, complementing the efforts of federal agencies in this regard. In *Fednav Ltd. v. Chester*¹⁰², the U.S. Supreme court had held that Michigan's ballast water statute making the permit system compulsory for all seagoing vessels, using Michigan port, was constitutional.

In *Northwestern Environmental Advocates v. EPA*¹⁰³, the main issue was that whether Clean Water Act¹⁰⁴ could be used to prevent ballast pollution. The U.S. Environmental Protection Agency had the authority to issue the National Pollution Discharge Elimination System Permit and had exempted ship sourced point pollutants including ballast and ship's sewage from the

Garbage, Municipal or Commercial Waste, and Ballast Water, 33 C.F.R. § 151.1500–18 (2007) (implementing the provisions of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990). *See*, United States Coast Guard, "Ballast Water Management", <http://uscg.mil/hq/cg5/cg522/cg5224/bwm.asp>, last accessed in June 2012

¹⁰² 2008 FED App. 0414P (6th Cir.)

¹⁰³ 42 ELR 20061 (2005)

¹⁰⁴ 33 U.S.C. §§ 1311(a), 1342(a) (2006)

purview of the permit system. The court had held that the EPA had no authority to pass any regulation thereby exempting ballast from the NPDES system. In effect the ballast pollution can be effectively controlled under the EPA regime also.

Thus in the United States both the federal and state governments can control ballast pollution. The Federal government through the USCG effectively monitors ballast discharges in coastal waters and the states enact regulations to control this form of pollution in ports.

The Canadian Model of Control

Canada was the first among a few countries to develop a centralized model of control for ballast pollution after growing concerns and reports about the destruction of its marine sanctuaries by bio invasions. The Ballast Water Control and Management Regulations is the Canadian law¹⁰⁵. Regulations are applicable to every ship in the Canadian waters. Every effort should be taken by the master and crew to minimize the BWE in Canada's territorial sea or at least make the ballast harmless before discharge. For this, several methods like BWE, treatments, retentions and discharge into reception facilities are listed in the regulations.

When it comes to BWE, distinctions are clearly set for transoceanic and non-transoceanic ships. Transoceanic ships from outside Canada are not encouraged to make BWE in the mid oceans. Each ship should carry a BWMP on board. It should detail the Ballast water management process and the safety procedures for the Ballast water management, sediment disposal procedures, design specifications of the ballast system, officers in charge for monitoring the plan and for co-coordinating BWMP with Canadian officials.

¹⁰⁵ The Ballast Water Control and Management Regulations, SOR/2006-129 (Can.), available at <http://canadagazette.gc.ca/partII/2006/20060628/pdf/g2-14013.pdf>, last accessed in June 2013

If in case of any emergency, the ship is unable to comply with the BWCM, the matter should be notified to the Ministry of Transport ninety eight hours prior to entry into Canadian waters. The master should discuss the issues in detail with the Ministry and act accordingly so that ship may not discharge harmful invasive species into the ports and nearby areas. This model is a centralized approach of control of ballast water pollution.

Conclusions

India does not have a comprehensive legislation to control bio invasions. As a result, many of the environmental issues connected with ballast pollution remain un-addressed in law suits filed before the courts of the country. For example, in *Rama Gopalan v. Union of India*¹⁰⁶ and *O. Fernandes v. T.N.P.C.B.*¹⁰⁷ the major issue that should have been decided was the efficiency of the environmental management plan of the Sethu Samudram Canal Project. The project links two major Indian seas, the Arabian Sea and the Bay of Bengal, raising considerable threat of possible bio invasions at massive levels during shipping operations in these areas. It also threatens the unique bio system of the Gulf of Mannar marine biosphere reserve. Yet, this major issue got little attention and the religious consequences and issues associated with the dredging of *Rama Sethu* were discussed in detail.

In *Unnikrishnan v. Divisional Inspector of Police*¹⁰⁸, the vessel, *M.T. Dadabhai Naoroji* had discharged naphtha along with ballast operations within the Cochin Port Limits. Fire broke out and four men who were asleep in two fishing boats were killed in the incident. Investigations were ordered under

¹⁰⁶ Writ Petition Nos. 18076, 18223 & 18224 (High Court of Judicature at Madras June 19, 2007) (AjithPrakash Shah C.J. & P. Jyothimani J.)

¹⁰⁷ Special Leave Petition (Civil) 20758 of 2005 (Supreme Court of India), available at <http://courtnic.nic.in/supremecourt/querycheck.asp>., last accessed in June 2013

¹⁰⁸ 2001Cri.L.J 4558

the Merchant Shipping Act, 1958¹⁰⁹ and criminal trial was initiated against the captain, chief officer and chief engineer of the vessel under the Indian Penal Code. Section 361 enables the Magistrate to conduct preliminary enquiry about such incidents and arrest, give out bail or hand over the violators to the proper court. There after the Indian Penal Code will apply. This is a major constraint in exercising port state jurisdiction in pollution cases. In the present system, if cases are charged under the Merchant Shipping Act, local police and enforcement agencies cannot exercise jurisdiction. Hence, the provisions of the Penal Code are applied in most cases to extend local jurisdiction over such incidents. This may ultimately weaken the enforcement regime under the Merchant Shipping Act. Criminal Laws need to complement the Merchant Shipping Act in this regard.

Two major countries that have exclusively legislated on the topic of ballast pollution are the United States of America and Canada. The legislative approaches of both these nations on control of ballast pollution are distinct and suit to address the unique problems faced by these countries in this regard. Whether India should follow a centralized or decentralized system of control would depend upon the typical trade and economic policies of the country.

If ballast water pollution is treated as a ship sourced operational pollution, India could go for a comprehensive Ballast Water Management Regulations under the scheme of the Merchant Shipping Act. At present the system is working upon the marine notices issued by the D.G. Shipping's office. These are no laws in the strict sense but are strong recommendations seeking compliance from interested parties. These notices are not in par with clear legislation and these cannot in any way make the enforcement stringent. Only a proper legislation could set international shipping standards envisaged under the BWC. Proper legislation may facilitate to establish an environmental management system for port operations in accordance with internationally

¹⁰⁹ The Merchant Shipping Act, 1958, s.361

accepted environmental standards. The Indian Ports Act, 1908 should be amended to compliment the provisions of the Merchant Shipping Act, 1958 in this regard. Hence, under the prevailing system in India a decentralized approach like that exists in the United States, delegating some powers to make rules under the major legislation is recommended. In this manner, the local enforcement agencies may adopt stringent byelaws setting standards for BWE and BWMP in accordance with the local concerns and demands.

Both precautionary and curative concepts have equal importance in controlling ballast water pollution. The major legislation should adopt the important precautionary principles set forth in the BWC for all ships visiting Indian ports. Specifications for mid ocean exchange, BWE, BWMP, performance standards, monitoring and control specifications should be clearly set under the BWMR. The mid-ocean exchange is a temporary measure and new technologies are coming up to control ballast pollution which the law should be anticipating for the future.

The officer in charge of monitoring the oil record book, BWMP implementation should be identified and clearly designated.

The Coast Guard should be vested with more surveillance powers. Monitoring of vessels beyond the port limits is equally important and this involves high costs and requires sophisticated infrastructural and technology specifications. Empowering the Coast Guard will be an ideal tool to check unwarranted vessel entries.

Indian ports should provide for ballast reception facilities. Liaison officers need to be designated in ports in case of contingencies to make effective communications on BWE between the port officials, ship owner and the master and crew.

Most important is to create awareness about the problems of bio invasion among various stake holders of the industry. This could be done by means of organizing workshops and conferences on the topic.

The problem of ballast water pollution may be plagued effectively by concentrating on the training to crew, ship engineering, education campaigns and enforcement. The problem of bio invasions has got global implications as it extends beyond boundaries. It is not an issue specific to shipping industry. Therefore, international and regional co-operation is important to control this form of pollution.

The National Institute of Oceanography (NIO) is the nodal agency designated by the Government of India under the GLOBALLAST programme to conduct baseline studies and sampling techniques, ballast water risk assessment, to develop sites where BWE can be permitted, to list port areas where BWE can be safely done in case of contingencies and advising the Government of India on safe BWMP. Under this scheme, the NIO has already entered into MOU with D.G. Shipping and eight major ports for enabling e-reporting of ballast water history for all vessels visiting the ports.

India should go for a comprehensive law on ballast water pollution as the protection of marine bio diversity and public health are also larger commitments under the ballast water management. For example, the provisions of Indian Ports Health Rules, 1989, the Epidemic Diseases Act, 1897 and the Destructive Insects and Pests Act, 1914 could be invoked only when the ballast water contains pathogens that may endanger human health. These laws are of no use in regulating routine ballast water discharges.

The Biological Diversity Act, 2002 and other laws for preserving endangered marine flora and fauna also find seldom application in the control of routine ballast discharges. The massive destructive power of biological pollution through ships as a vector needs to be addressed immediately. This may be successfully controlled only by passing a comprehensive law on ballast pollution. State practices suggests that this form of pollution is very unique and distinct in its kind that it may be controlled to considerable extent by continuous monitoring and enforcement of proper laws but very difficult to eliminated the risk associated with it in its entirety.

Chapter 6

CONTROL OF SHIP GENERATED SEWAGE AND GARBAGE IN PORTS

The United Nations Conference on the Human Environment, Stockholm, 1972, observed that, “the capacity of the sea to assimilate wastes and render them harmless and its ability to regenerate natural resources are not unlimited”. Yet, ports are polluted to a considerable extent by the sewage and garbage from ships. Illegal discharge of sewage and garbage into the port waters was reported in many ports in India in the recent past. There was a petition filed before the High Court of Kerala for restricting the dumping of sewage and garbage from the visiting vessels in the Cochin Port area and public places¹. Under the international law, the discharge of sewage and garbage into port area is strictly prohibited, *albeit*, restricted discharge is permitted only beyond the territorial limits. Still, illegal discharging during routine vessel operations is quite common in India.

The vessels calling at ports may illegally discharge into oceans plastic fishing gears and worn out nets, fishing pots and strapping bands from bait boxes, plastic containers and untreated sewage from their toilets and kitchen². A UNESCO study quotes the United States Coast Guards³ that almost 52% of the U.S waters are polluted by marine plastics dumped from recreational and fishing

¹ “Plea against Dumping of Wastes from Ships”, ndtv reported on 5th December 2011, *See*, www.ndtv.com.htm, last visited in November 2013

² Seba B. Sheavly, “Marine Debris- an Overview of a Critical Issue for Our Oceans”, Sixth Meeting of the UN Open Ended Informal Consultative Process on Oceans & Law of the Sea, 2005, *See*, http://www.un.org/depts/los/consultative_process/documents/6_sheavly.pdf, last visited in November 2013

³ Hereinafter to be referred to as the USCG

boats⁴. As per the United Nations Environment Program⁵ the volume of plastic litter floating over the oceans is estimated over 13,000 pieces on every square kilometer. It was also reported that 46,000 pieces per square mile or 18,000 per square kilometer has also been produced. From the equator to the Polar Regions, all oceans are being contaminated by marine debris. Therefore it is a global form of pollution⁶.

Scientific studies establish that plastics and synthetic materials are the most prominent and harmful type of marine debris that have caused injuries and deaths to almost over 267 endangered species of oceans either by entanglement or ingestion⁷. The entanglement of packing bands and synthetic ropes used for fishing and drift nets may cause serious threats to the marine mammals, leading to their mortality⁸. Plastic scrubbers once discarded into the oceans may concentrate heavily on surface waters and are easily dispersed by currents. Plastics thus floating may be possible pathways for alien species like the bacteria, diatoms, algae. Drifting plastics may thereby induce bio invasions⁹. Thus, “Marine debris is one of the world’s most pervasive pollution problems affecting the oceans”¹⁰. Marine debris means “manufactured or processed solid materials, typically waste, that enters into the ocean

⁴ *Id.*

⁵ Herein after to be referred to as the UNEP

⁶ Allsopp, M., *Plastic debris in the world’s oceans*, Green Peace, (2006), See, www.unep.org/regionalseas/marinelitter/.../plastic_ocean_report.pdf, last visited in November 2013

⁷ The proportion varies between 60% to 80%, See, Gregory and Ryan, (1997), Quoted in Jose G.B. Derraik, “The pollution of the marine environment by plastic debris: a review”, 44 *Marine Pollution Bulletin* 842 (2002)

⁸ E. Goldberg, “Emerging Problems in the Coastal Zone for the Twenty-First Century”, 31 *Marine Pollution Bulletin* 152 (1995)

⁹ *Ibid*

¹⁰ *Supra* n.2

environment from any source”¹¹. 80% of the marine debris is from land based sources and 20% is from ocean based sources. Merchant ships and fishing vessels are the major ocean based contributors of this form of pollution.

The disposal of sewage waste in ports causes numerous environmental and health hazards. The presence of nitrogen and phosphorous in the sewage may bring about eutrophication, inducing massive growth of algae and other phytoplankton. It may also cause ‘Red tide’ that will deteriorate the growth of commercial fishes in the region. The bacteria, viruses and other parasites in the untreated sewage may cause diseases to people engaged in recreational activities along the contaminated beaches.

The illegal discharge of garbage and sewage from merchant ships offers significant threat to port environment and marine diversity. Often prosecutions are very rare as the exact source of pollution is often difficult to identify¹². Hence, it is important that this form of pollution need to be properly controlled. In India, till date, no significant steps have been taken to control ship generated waste. In real practice, licensees of ports handle these waste and the administrations have not realized the crucial environmental threats associated with this practice. With the increase in the number of ships visiting ports, the waste production is also on the rise. Consequently, port waste management needs to be addressed in a structured and systematic way so as to ensure environmental protection and a viable economic and operational system to fulfill the international requirements.

Evolution and Development of International Law on Control of Ship Generated Sewage and Garbage

There were some significant efforts by the international community to preserve the oceans from Ship generated wastes. Initially, “Throw it into ‘Davy

¹¹ J.M. Coe, D.B. Rogers, “Marine debris: sources, impacts, and solutions”, 77 *Journal of the Marine Biological Association of the United Kingdom* 917 (1997)

¹² Jose G.B. Derraik, *Supra* n.7, at p.842

Jones' Locker" was generally the policy when the vessels used to simply throw into the oceans ship generated waste overboard¹³. The Stockholm Declaration made it a point that "...the discharge of toxic substances or of other substances ... in such quantities or concentrations as to exceed the capacity of the environment to render them harmless must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems"¹⁴. The states shall strive to adopt all possible methods to prevent marine pollution from such discharges¹⁵. There were no proper waste management plans for vessels except, the prevention of pollution under the OILPOL 1954 scheme, which had limited application mainly over the control of oil pollution by tankers. The London Convention on the Prevention of Marine Pollution by the Dumping of Wastes and other Matter¹⁶ was another major legislation that prevented dumping of land sourced waste into the oceans. As dumping means the "waste materials carried into the sea for disposal, particularly from land based sources", the provisions of the LDC are not applicable to ship sourced discharge of sewage and garbage, which is basically categorized under operational pollution from vessels.

Before the Annexures IV and V of MARPOL were enacted, the international law on dumping, the customary international law under the UNCLOS regime and regional and multilateral agreements were not regulating ship generated solid wastes and sewages. Annexures IV and V and the Guidelines to Annex V of the MARPOL 73/78 are the international law on control of sewage and garbage disposal in ports.

¹³ Nickie Butt, "The impact of cruise ship generated waste on home ports and ports of call: A study of Southampton", 31 *Marine Policy* 591 (2007), See, www.sciencedirect.com, last accessed in November 2013

¹⁴ The U.N. Declaration on Human Environment, Principle 6, See the report of the U.N. Conference on Human Environment, U.N.Doc. A/Conf. 48/14

¹⁵ *Id.*, Principle 7

¹⁶ Herein after to be the LDC

Sewage includes,

“drainage and other wastes from any form of toilets, urinals, and WC scuppers; drainage from medical premises (dispensary, sick bay, etc.) via wash basins, wash tubs and scuppers located in such premises; drainage from spaces containing living animals; or other waste waters when mixed with the drainages defined above”¹⁷.

Garbage finds several new descriptions under the revised Annex V. It includes,

“animal carcass (es), cargo residues, cooking oil, domestic wastes, fishing gear, food wastes, incinerator ashes, operational wastes and plastics”¹⁸.

Cargo residues may be in any form including oil cargo residues under Annex I, noxious liquid substances under Annex II and liquid cargo residues from dry cargo under Annex V. Cargo residues if not mentioned under other Annexures of MARPOL 73/78 would fall under Annex V definition of garbage. Hence, the definition of ‘garbage’ under Annex V includes solid bulk cargo residues and liquid cargo residues from dry cargo¹⁹.

Discharge Standards for Sewage under MARPOL Annex IV²⁰

Annex IV regulates the discharge of sewage into the oceans by providing for sewage treatment plants on board of the vessels, by obligating the ports and terminals to provide for sewage reception facilities and by means of surveys and certification. Accordingly, every sea going vessels should have an

¹⁷ MARPOL Annex IV, reg. 1.3

¹⁸ *Id.*, Annex V, reg. 1.9

¹⁹ *Ibid*

²⁰ Entered into force on 27th September 2003 and was revised on 1st August 2005, *See*, <http://www.imo.org/OurWork/Environment/PollutionPrevention/Sewage/Pages/Default.aspx>, last accessed November 2013

International Sewage Pollution Prevention Certificate²¹, which is issued by the concerned flag state. As per the revised Annex every ship of 400 gross tonnage and above carrying 15 or more persons need to have equipped with an approved sewage treatment plan on board or a sewage comminuting or disinfecting system or at least a holding tank.

Sewage may be in the form of black or grey water. Black water includes, 'solid human waste and waste from medical facilities'. This is an important form of pollutant discharged mainly by the cruise ships. Annex IV does not allow discharge of any form of sewage within 3 nm from the shores, but, treated sewage may be discharged at a distance of 12 nautical miles²² from the land. In any case, 'raw sewage' should be discharged only into the high seas²³.

Grey water includes non-sewage waste water that results from showers, dish washings and laundry. These discharges may contain nitrogen, phosphorous and faecal coliforms, but there are no discharge restrictions for grey water under the MARPOL 73/78 beyond 3 nm.

The international law completely prohibits the discharge of all forms of sewage into the port environment.

Latest amendments are made to Annex IV by means of Marine Environment Protection Committee Resolution²⁴. Accordingly, discharge standards are set for special areas including the Baltic Sea. The MEPC. Res.

²¹ Here in after to be referred to as the ISPP

²² Herein after to be referred to as nm

²³ The MEPC Resolution 157(55), Guideline on How to Calculate Moderate Discharge of Sewage, 2008, *See*, <http://www.imo.org/OurWork/Environment/PollutionPrevention/Sewage/Documents/Resolution%20MEPC.157-55.pdf>, last visited in November 2013

²⁴ The MEPC Resolution 200(62), on amendments to the Annex of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships 1973 (2011)

159 (55) sets effluent standards and performance standards for sewage treatment plants on board of vessels.

Discharge Standards for Garbage under MARPOL Annex V²⁵

Garbage means to “include all kinds of food, domestic and operational waste, excluding fresh fish, generated during the normal operation of the vessel and liable to be disposed of continuously or periodically”²⁶.

Annex V “restricts discharge of garbage and bans disposal of plastics and other synthetic materials such as ropes, fishing nets, and plastic garbage bags at sea with limited exceptions”²⁷. It also directs governments to provide sufficient port reception facilities for proper disposal of garbage from vessels.

All ships above 400 gross tonnage and in voyage with more than 15 persons need to maintain a garbage record book to record all discharge and incineration tasks²⁸. This requirement has been revised in the new Annex and accordingly, new categories of garbage and various recording requirements have been introduced. Similarly, all such ships should have a Garbage Management Plan, to include ‘written procedures for collecting, storing, processing and disposing of garbage, including the equipment on board’²⁹. The Garbage Management Plan should designate the officer in charge and should be in the working language of the crew.

²⁵ Entered into force on 31st December 1988

²⁶ *Ibid*

²⁷ MARPOL 73/78, Revised Annex V, Also *See*, J.B. Pearce, “Marine Vessel Debris, a North American perspective”, 24 *Marine Pollution Bulletin* 586 (1992); the MEPC Resolution 201(62) on amendments to Annex V, 2011; the MEPC Resolution 219(63) on Guidelines on implementation of Annex V, 2012 and the MEPC Resolution 220(63) on Guidelines on development of Garbage Management Plans, 2012

²⁸ *Id.*, Reg. 9

²⁹ *Ibid*

Ships that are 12 metres in length or more and fixed or floating platforms have to display placards notifying the crew and passengers of the MARPOL Annex V requirements. The Annex prohibits discharges of any garbage from fixed or floating platforms and from any ship alongside or within 500m of a fixed or floating platform.

The ship owners should ensure that the requirements on board for garbage disposal are in accordance with the revised Annex V and the crew is well-informed and trained of the same.

Procedures for Collecting, Processing, Storage and Discharge of Various Types of Wastes

Procedures for collecting, processing, storing and discharge of garbage are specified in the revised Annex V. Accordingly, in order to facilitate sorting and recycling, garbage receptacles such as drums, metal bins and cans need to be marked distinctively. For processing, special equipment such as compactors, incinerators, balers and crushers may be used as per the port specifications and space limitations of the vessel. Garbage should be safely stored after appropriate cleaning, disinfecting and pest control treatments. The Annex introduces an “*en route*” clause that allows discharges only while the ship is *en route*.

Treatment of Animal Carcasses

Ships may be carrying live animal cargo. In the event of any mortality, the carcasses should be removed from the pen areas and appropriate measures should be taken for proper disposal. It should be disposed only beyond the prescribed territorial limits into the oceans or to the port reception facility. In all cases the rules as to occupational health and safety hazards should be complied properly. Mortalities in excess of those generated during the routine operations are not categorized as garbage³⁰. In such cases the master of the ship has to get

³⁰ MARPOL 73/78, Annex V

proper advice from the flag state or the coastal state concerned. Fish carried as cargo and that have died on board are also treated as animal carcasses.

Treatment of Cargo Residues³¹

Outside the special areas and beyond 12nm from the land, CR that is not harmful to the marine environment may be discharged into the oceans. Cleaning agents in the cargo hold, deck and external surfaces wash water may be discharged into the sea but they should not be harmful to the marine environment. Specifications as to the discharge into the special areas are also specified. The IMO is drafting guidelines for categorizing CR that are harmful to the marine environment³². Meanwhile the provisional categorization would apply³³. Ship owners should specifically classify the bulk cargo in accordance with the guidelines and need to inform the Port State of loading of the cargo on the basis of this classification³⁴. The cargo declaration should be in accordance with the provisions of the International Maritime Solid Bulk Cargoes Code, 2011³⁵.

After unloading, the CR that remains on the hold and the deck are to be swept and washed of. It is important to avoid contamination of the next cargo and to avoid the risk of pollution. Sweeping down the cargo and washing of the water are part of ship's garbage management plan. This has to be recorded as Category G in the garbage record book. If the discharge is not permitted *en route* to the loading port, this water has to be kept in hold tanks and subsequently discharged into the port reception facility³⁶. As many ships do not have hold tanks, there can be operational problems.

³¹ Herein after to be referred to as the CR

³² MEPC Resolution 219(63), *Supra* n. 27

³³ MEPC.1/Circ.791 gives classification provisionally until 31st December 2014

³⁴ *Supra* n.32

³⁵ The International Maritime Solid Bulk Cargoes Code , 2011, s. 4.2, herein after to be referred to as the IMSBC Code, *See* Appendix 1 of the IMSBC Code

³⁶ Herein after to be referred to as the PRF

When packaged cargo or tanked containers are damaged they fall under the category of garbage. Packaged cargo should contain marks, 'Marine Pollutant', if they are of that category. The provisions of the International Maritime Dangerous Goods Code, 1965³⁷ will be applicable to them³⁸. In the event of an emergency due to human error, bad weather, mishandling or bad stowage, if the cargo is damaged, the provisions of Annex V would apply. In such cases the master should consider the environmental impact and comply with the reporting procedures by the fastest telecommunication channel available to the nearest coastal state or if in ports to the port state. Once the emergency is over, the cargoes that are damaged should be collected, processed and stored and discharged into the PRF in accordance with the provisions of the MARPOL.

The convention empowers port state control officers to "inspect a foreign-flagged vessel, where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution by garbage". The enforcement of the provisions is voluntary. "Restrictive and punitive measures, positive incentives and voluntary measures" may be adopted for the enforcement of the provisions³⁹.

Guidelines for the Disposal of Ship Generated Wastes⁴⁰

The guidelines are issued to assist states to implement the provisions of Annex V by means of proper domestic laws. The ship owners have to adopt best practices to ensure that wastes are disposed in accordance with Annex V and domestic laws. Port administrations have to ensure that adequate reception

³⁷ Herein after to be referred to as the IMDG Code

³⁸ MARPOL 73/78, Annex III

³⁹ MARPOL 73/78, Annex V, s.7

⁴⁰ The MEPC.219(63), *Supra* n.27

facilities are available in ports for proper disposal of ship generated wastes⁴¹. The guidelines recommend ships to primarily use port reception facilities than to dispose of ship generated wastes⁴² into the oceans⁴³. It also obligates the governments to provide for adequate port reception facilities.

Port Facilities for Ship-Generated Waste and Cargo Residues: The European Union Directive⁴⁴

The directive aims to reduce ship generated waste in EU ports. The directive is applicable to all member state ports and all types of commercial vessels visiting them. At all EU ports, port reception facilities should be provided to receive ship generated waste without much abnormal delay, suitable to tailor the needs of ships visiting the ports and the size of the port. A waste reception plan should be framed for every port which has to be revised in every three years. Captains or officer in charge of waste management in ships are to give prior notice to the ports regarding the amount of waste that need to be received and also the volume of waste on board the vessel. Ships will not be allowed to leave the community port unless the wastes are received or the vessel has necessary storage capacity. Every community port should maintain a cost recovery system, to encourage the delivery of waste on land and discourage the dumping at sea. The port state control officers are to conduct at least 25% inspections to check whether the regulations are carried out by vessels. In case of any deficiency the next port of call should be alerted. The

⁴¹ The National Research Council (U.S.) Committee on Ship borne Wastes, *Clean ships, Clean Ports and Clean Oceans: Controlling garbage and Plastic wastes at Sea*, The National Academies Press, Washington (1995)

⁴² Herein after to be referred to as the SGW

⁴³ *Supra* n.27, Guidelines for the implementation of Annex V of 73/78, Para 1.3

⁴⁴ The European Union Directive 2000/59/EC on Port Facilities for Ship Generated Wastes and Cargo Residues, 2000 See, http://europa.eu/legislation_summaries/environment/waste_management/124199_en.htm, last visited in November 2013

status of port environment should be audited and the report should be sent to the European Union Parliament and Council.

The EC Directive defines ship generated wastes and cargo residues in accordance with the provisions of MARPOL Annex V and its guidelines. Accordingly, ship generated waste include, “all waste including sewage, and residues other than cargo residues...generated during the service of a ship”⁴⁵. Cargo residue means, “...remnants of any cargo material on board”⁴⁶. The enforcement of EC Directive is mandatory.

Regulation of Health and Sanitation Impacts of Waste Disposal

Improper collection, processing, storage and discharge of sewage and garbage into port waters may raise crucial health and sanitation issues to the coastal community. Health and sanitation requirements therefore, form a significant objective behind pollution control. The International Regulation on Health and Sanitation⁴⁷ enforced by the World Health Organization is yet another important piece of legislation applicable to the safe discharge of ship generated waste and cargo residue in ports⁴⁸. The Guide is not explicitly mentioned in the current draft of the revised IHR, 2005. Yet, it is a guideline for port regulators, ship operators and ship builders for understanding and assessing the potential health impacts of improper ship designs and operations.

The FAO⁴⁹ Code of Conduct for Responsible Fisheries

It supplements the requirements and issues addressed by the MARPOL. The FAO Committee on Fisheries, an intergovernmental forum, regularly

⁴⁵ *Id.*, art. 2(c)

⁴⁶ *Id.*, art. 22(d)

⁴⁷ Herein after to be referred to as the IHR

⁴⁸ The International Health Regulations (IHR) adopted by the World Health Organization (WHO) in 1969

⁴⁹ Food and Agricultural Organization

considers marine debris issues associated with fisheries activities. The issue of plastic debris is also considered by the UN Fish Stocks Agreement 2001 and by soft laws like the Voluntary Guidelines for the Marking of Fishing Gear, 1999 and the International Guidelines for by Catch Management and Reduction of Discards, 2011.

Major Limitations of Control of Ship Generated Sewage and Garbage

The international law on safe disposal of ship generated sewage and garbage is in tune with the 'waste hierarchy' that is in practice in many developed countries. MARPOL prescribes several methods for treatment of wastes on board. The waste treatment plans on board may depend upon the type and age of vessel, cargo it carries and the commitment of the ship owners. The most appropriate option within the hierarchy was reduction, re use and recycling. It is now replaced by the concept 'prevention is better than cure' as a step towards sustainability. The success of this strategy would depend upon the environmental commitment of ship owners and operators and diligences of their crews as these rules are optional.

The Port authorities and their licensees for waste disposal should confirm that adequate port reception facility is available to deal with and accept all forms of recovered and recyclable waste. The ships visiting the ports need to be encouraged to use local facilities for waste disposal to avoid transport by land and additional environmental loading.

The MARPOL offers immense opportunities to control ship based sewage and garbage, as these are pervasive pollution problems even now. The main disability is that its implementation depends upon the member states' ability to effect an adequate enforcement scheme. The MARPOL Convention obligates parties to adopt all 'appropriate and practical measures' to detect violations and assess penalties adequate and severe to discourage

violations⁵⁰ but who would enforce it against who remains a critical issue. If reasonable precautions are taken to prevent discharge of garbage or sewage overboard, it would be difficult to prove that it was intentional, unless there are ample provisions in the domestic laws to detect and differentiate it. The Annex convention exempts three forms of discharges from its purview, namely discharge in order to save life at sea, discharge occurring due to damage of the ship or its equipment and the accidental loss of synthetic fishing nets or materials incidentally needed for the repair of such nets. These exemptions are allowed if the master had taken reasonable precautions to avoid the inadvertent escape. But 'what constitute reasonable precaution' remains unexplained⁵¹. This is a major limitation for proper enforcement.

The convention does not make it clear how a port state could require vessels of foreign governments to maintain record books and ship board management plans for waste disposal.

There are also crucial jurisdiction issues connected with the implementation of the Annexes. A port state could exercise jurisdiction only if 'there are clear grounds of violations' and when the pollution causes severe damage to its territory and coastal waters. Any information as to its violations should be first given to the concerned flag state. The port state's primary duty is to monitor discharge violations. The effectiveness of the port state jurisdiction to prosecute would depend on the stringent domestic law having ample solutions to all the above mentioned issues beautifully incorporating discharge restrictions.

Yet another limitation of the Convention is that it exempts military vessels from its purview. It recommends that the state parties shall as far as possible see that these vessels are not acting in contravention of the provisions

⁵⁰ MARPOL 73/78, arts. 6(1) & 4(4)

⁵¹ *Id.*, Annex V, reg.6

of the convention⁵². Military and navy vessels are also major contributors of marine debris.

The Annexures obligates parties for providing 'adequate PRF's, but, what constitutes 'adequate facility' remains unanswered⁵³. Also, the cost involved in setting up PRF may be a major constraint for the port administrations in developing countries.

The convention provides a scheme for disposal of sewage and garbage. But it does not specify a uniform system to implement it. The guidelines to Annex V are recommendatory in nature and do not obligate parties to enforce them at domestic level.

Because of the limitations of international law and other soft laws at regional and multilateral levels, states have difficulty in implementing strong control of sewage and garbage discharges. It would depend on the quality of domestic laws.

Indian Law on Ship Generated Waste and Cargo Residues

In spite of the strict regulations under the MARPOL Convention, ships are reported to have been discharging sewage and garbage illegally into the port areas in India. Public interest litigation is pending before the High Court of Kerala seeking a direction to the Cochin Port Trust to take immediate steps to stop dumping of sewage and garbage discharged from the vessels calling at the port in public places. The Petitioner submitted that "...both garbage and toilet waste are taken out of the port by private parties on the basis of licence issued by the port trust. Wastes are dumped in public places and also in the Cochin

⁵² *Id.*, art. 3(3)

⁵³ Annex V, reg. 7. The only requirement specified is that the party has to provide PRF at ports "without causing undue delay to ships and in accordance with the needs of ships using them".

Port area. Most of the countries do not permit disposal of waste generated from vessels in their territory. But the Cochin port is allowing this⁵⁴.

Controls under the Environmental Protection, Bio- Diversity and Fisheries Conservation Laws

Control can be exercised over ship generated sewage and garbage under the laws for the protection of environment, bio-diversity and under the fisheries conservation laws. Whether such a scheme of control is necessary in the Indian context and the standards of control under the existing laws are being analysed hereunder.

The Coastal Regulation Zone Notification 2011

The discharge of wastes from ships can be regulated under the Coastal Regulation Zone Notification, 2011⁵⁵. The objective behind the CRZ 2011 is

“...to ensure livelihood security to the fisher communities and other local communities, living in the coastal areas ... and to promote development through sustainable manner based on scientific principles taking into account the dangers of natural hazards in the coastal areas, sea level rise due to global warming”⁵⁶.

The water areas up to 12 nm and the tidal influenced water bodies are included under the CRZ 2011 notification. This includes ports and harbours. Accordingly,

the “...activities in the marine and coastal waters such as dredging, sand mining, discharge of waste from

⁵⁴ *K.N.Unnikrishnan v. Cochin Port Trust*, Writ Petition (Civil 32389 of 2011) reported in NDTV Online, See, <http://www.ndtv.com/article/kerala/plea-against-dumping-of-waste-from-ships-155327>, last visited in December 2013

⁵⁵ Herein after to be referred to as the CRZ 2011

⁵⁶ The Coastal Regulation Zone Notification 2011, Preamble

ships, construction like groynes, breakwaters, etc., including reclamation *which have serious impacts on fishing and allied activities*” may be regulated⁵⁷.

But, this cannot be used to deny access or to detain to ships violating the provisions of MARPOL. Under the scheme, the shipping operations can only be regulated, to save the rights of fishing folks.

As such, no enforcement action can be initiated under the CRZ 2011 Notification. Enforcement measures can be initiated only under the Environmental Protection Act 1986, which is deterrent in nature⁵⁸. The EPA, 1986 states that

“any person who fails to comply or contravenes any of the provisions of the Act, or the rules made or orders or directions issued under the act or rules, then for such failure or contravention, he shall be punishable:-

- a) With imprisonment for a term which may extend to 5 years,
- b) With fine which may extend to one lakh rupees,
- c) With both”⁵⁹.

On the second contravention or failure and thereafter,

“...an additional fine which may extend to five thousand for every day can be imposed for a period during which failure or contravention continues”⁶⁰.

⁵⁷ *Id.*, Cl.(1)

⁵⁸ The Environmental Protection Act, 1986, s.15, herein after to be referred to as the EPA, 1986

⁵⁹ *Ibid*

⁶⁰ *Ibid*

If the failure or contravention continues beyond a period of one year after conviction, the offender is punishable with imprisonment for a term which may extend to seven years⁶¹. Upon the complaint filed by the central or the state pollution control boards, legal proceedings may be initiated against the shipping company, owner and the master as applicable under the Act⁶².

The inspections and gathering of evidences are very cumbersome under the Act. In normal cases, ships will deposit the bank guarantee and will sail into the next port of call. The law is not well developed like that in the USA to establish the *prima facie* offence committed by the master of the vessel leading to his arrest and detention. The Americans had realized the difficulties and challenges offered by ordinary pollution control laws in punishing willful polluters and violators of the MARPOL. Hence, they have enacted specific legislations such as the Marine Plastic Pollution Research and Control Act, 1987⁶³, which applies Annex V requirements in the United States. It delegates rulemaking authority to the United States Coast Guard. The MPPRCA applies to all foreign and domestic ships, in ports, and terminals in the navigable waters or the EEZ of the United States. The MPPRCA empowers the coast guard to inspect any vessel in the United States territorial waters to verify whether the ship disposed of garbage in violation of the MPPRCA.

The USCG is empowered to impose civil penalties and imprisonment up to 5 years for the violations of MPPRCA. The ship may be denied port entry if it is not complying with the national and international requirements.

The Hazardous Waste Management Act, 1989

The Act prescribes for safe handling of Hazardous Wastes in port waters up to a zone of 5 kilometers and generally controls import and export of

⁶¹ *Ibid*

⁶² The Environmental Protection Act 1986, s.19

⁶³ Here in after to be referred to as the MPPRCA, 33 U.S.C. §§ 1901-1912

hazardous waste in the country. If the cargo handled is of hazardous nature, the provisions of the Act and the Hazardous Wastes (Management and Handling) Rules, 1989 would apply within the 5 Kilometer zone. Shipping operations beyond this zone are covered under the provisions of the Merchant Shipping Act, 1958. The wastes generated under the normal operations of the vessel and cargo residues are categorized as ‘Hazardous wastes’ under schedule I of the Act. Plastic debris is not a listed hazardous substance under applicable regulations, and its hazardous pollutant requirements cannot be enforced against ships discharging plastic debris beyond the specified zone. The Act and the rules under it basically regulate the discharge of toxic and reactive substances but not specifically plastics and other important forms of marine debris discharged from ships.

The Water (Prevention & Control of Pollution) Act, 1974

The Act basically is to regulate discharge of pollutants from land based sources. Yet, when licensees are appointed by the state pollution control boards for disposal of waste from ships the provisions of the Act are applicable. Also, ports being a part of the internal waters and equivalent to land territory, the regulation of shipping operations in ports are to comply with the provision of the Act⁶⁴.

The meaning given to “ ‘trade effluent’ is any liquid, gaseous or solid substance which is discharged from any premises used for carrying on any trade or industry, operation or process, or treatment and disposal system other than domestic sewage”⁶⁵.

Under the Act,

⁶⁴ The Act is applicable to ‘streams’ which include sea or tidal waters as the state government may by official notification specify. Under the CRZ notification 2011, ports include eco-sensitive areas specified under the CRZ Zone I and in all other cases those sea areas coming under the CRZ IV Zone

⁶⁵ The Water (Prevention and Control of Pollution) Act, 1974, cl.(k)

“Pollution means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organizers”⁶⁶.

This includes sewage and garbage from ships. Under the Water (Prevention and Control of Pollution) Cess Act, 1977 and the Water (Prevention and Control of Pollution) Rules 1978, the inspections of waste water treatment system and the PRF facilities are to be carried by the pollution control board officer⁶⁷.

The Wild Life Statutes and Fisheries Conservation Laws

The Indian Wildlife (Protection) Act, 1972 is applicable in the maritime zones prescribed under the Territorial waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976. Therefore, it covers ports also⁶⁸. Disposal of plastic debris at sea may entangle, kill, or harm a protected resource and violate a wildlife statute by ships. The Indian law on conservation of wild life does not specifically prohibit ships from discharging wastes at sea. The Central Government may regulate the activities so as to protect or conserve marine flora and fauna. The enforcement under such statutes is remote and impossible as the law is not specific on the issue.

⁶⁶ *Id.*, cl.(e)

⁶⁷ The Water (Prevention and Control of Pollution) Cess Rules, 1978, rule.7

⁶⁸ The Wildlife (Protection) Act, 1972, s. 30A

The Forest Conservation Act, 1980 as amended in 1988; the Bio-Diversity Act, 2002; fishing regulations and fisheries conservation laws ensure protection of marine bio- diversity and fishes. But they are not prohibiting illegal discharge of garbage and sewage from vessels.

The major inadequacy of ordinary pollution control laws, the Bio-diversity Act and wild life protection laws are that when regulating sewage and garbage discharges by ships, they impose responsibility on the Government to take steps to preserve marine species. Shipping operations are outside the purview of these laws. Garbage discharges from ships are not specified under any of these laws.

Control of Ship Generated Wastes and Cargo Residues under the Merchant Shipping Act, 2003

The Merchant Shipping (Amendment) Act, 2003, prohibits all Indian oil tanker and other ship to which the MARPOL rules apply⁶⁹⁷⁰, when proceeding to sea without International Sewage Pollution Prevention Certificate⁷¹. The conditions prescribed by the Central Government in this regard are mandatory for such ships⁷².

“Sewage” is defined as,

“...drainage and other waste from any form of toilets, urinals and water closet scuppers; drainage from medical premises (dispensary, sick bay and other like places) via wash basins, wash tubs and scuppers located in such premises; drainage from spaces containing

⁶⁹ The MPPRCA § 2104, 33 U.S.C. § 1907(d)(1)

⁷⁰ Ships of 400 Gross tonnage or above and carrying 15 or more passengers come under this rule.

⁷¹ The Merchant Shipping (Amendment) Act, 2003, s.356 C

⁷² *Id.*, cl.3

living animals; or other waste water when mixed with the drainages specified above”⁷³.

The central government can prescribe design specifications for all oil tankers and other Indian ships to prevent the discharge of *harmful substances* into the ports⁷⁴. Accordingly, all Indian ships should have the sewage treatment plan and certification as prescribed under the convention. The definition of sewage is the same as in MARPOL.

“*Harmful substance*” is defined as

“...any substance which, if introduced into the sea, is liable to create hazards to human health, harm living resources and marine life, damage amenities or interfere with other legitimate uses of the sea, and includes any substance subject to control by the Convention”⁷⁵.

This definition incorporates the definition for harmful substances mentioned in the convention like the marine debris, other forms of garbage and sewage. Even discharges due to wrecks or grounding and stranding of vessels that may cause obstruction to navigation and other legitimate uses of the sea such as fishing and recreation are harmful substances under this definition. When compared to the list of harmful substances under MARPOL, this definition is broader in scope. The legislation empowers the central government with much extended enforcement powers not only to control pollution but also to ensure the safety, sanitation and health of the people. It facilitates the legitimate use of ports.

⁷³ *Id.*, s.356 C explanation

⁷⁴ *Id.*, s. 356 E

⁷⁵ *Ibid*, s. 356 E explanation

Under the Act, the sewage and garbage record books are to be maintained. Entries are to be made⁷⁶. The custody, disposal and all other matters pertaining to such records on board should be done as per the provisions of the convention.

Inspection and Control

The duty to inspect on the compliance of prohibitions, restrictions and obligations imposed by the Merchant shipping Act to control disposal of ship generated wastes and cargo residues is vested with the Surveyors of the Mercantile Marine Department⁷⁷. They should physically inspect the vessel to find out whether there are any contraventions of the discharge and design specifications; steps taken to prevent and control pollution; maintenance of record books on board and validity of the ISPP. They can report their finding to the D. G. Shipping for enforcement measures⁷⁸. Based upon these evidences, the D. G. Shipping can take enforcement measures against the defaulting vessels. The ship may be detained or fine may be imposed. The navy or coast guard can be asked to stop the vessel from proceeding further. The concerned flag state may be asked to initiate legal proceeding against the master and owners of the defaulting vessel⁷⁹.

Port Reception Facilities⁸⁰

The Port Authority is required to provide Port Reception Facilities. Charges can be collected for it. Conditions can be prescribed for using it. If adequate facilities are not available the central government may have discussions with the concerned port authority and direct them to provide for the

⁷⁶ *Id.*, s. 356 F

⁷⁷ Inspections can be done by a person authorized under section 356 G (1). The Merchant Shipping Act, 1958, s.9

⁷⁸ The Merchant Shipping Act, 1958, s.356 F, Cls. (1)(a)- (e) and (2)

⁷⁹ *Id.*, s. 356 H

⁸⁰ *Id.*, s. 356 I

same in accordance with the provisions of the convention. The Central government shall by notification in the Official Gazette specify about the port reception facilities available in India⁸¹.

Power to Make Rules for Regulating Discharge of Garbage

The Central government is empowered to make rules to implement the provisions for prevention of pollution by ship generated waste and cargo residues⁸². Accordingly, rules can be prescribed to limit the discharge of harmful substances; the issuance of various pollution prevention certificates and to prescribe the duration of surveys and design specifications for vessels for the proper implementation of the Convention.

The Merchant Shipping (Prevention of Pollution by Sewage from Ships) Rules, 2010

In India, the compliance with the provisions of discharge of garbage under MARPOL, 73/78 has become mandatory for all ships since 27th September, 2008⁸³. The Draft Rules under the Merchant Shipping Act for the Prevention of Pollution by sewage from ships has entered into force on 7th January 2010 following the publication in the Official Gazette⁸⁴.

The rules are applicable to new ships above 400 gross tons. Ships that are able to carry more than 15 passengers also come under the rules. The rules are applicable to ships existing since five years after 27th September 2003, which are of 400 gross tons or more and could carry 15 or more passengers⁸⁵.

⁸¹ *Ibid*

⁸² The Merchant Shipping Act, 1958, s.356 O

⁸³ The Director General of Shipping, Engineering Circular No. 95/2008, dated 10th October 2008, NO: ENG/OPP-38(2)/Annex-IV/Part-I/2008 on MARPOL Annex IV implementation

⁸⁴ The Merchant Shipping (Prevention of Pollution by Sewage from Ships) Rules, 2010, G.S.R 13E, dated 7th January 2010

⁸⁵ *Id.*, r. 3

Existing ships of the above said description are obligated to ensure prevention of pollution by sewage. The rules are not be applicable in cases where the discharge is for ensuring the safety of the ship and those on board; or for saving of life at sea. It is also not applicable where the discharge of sewage happens from damage to the ship or its equipment provided all reasonable care has been given to prevent such escape.

Hence, no ship can conduct trade within the internal waters of India except according to the specifications mentioned under the rule.

Survey and Monitoring Requirements

The rules prescribe for initial, renewal, intermediate, annual and additional surveys. Under Rule 4, after the initial survey, on satisfactory compliance of all the technical requirements, the ship can be issued an 'International Sewage Pollution Prevention Certificate'. The renewal survey has to be done in every five years. Whenever any structural changes are carried out additional survey has to be conducted to ensure the design and discharge equipment specifications⁸⁶. It is the duty of the owner and master of the ship to ensure the reporting the need for surveys immediately after any changes is made in the ship design or construction. If after the survey, any deficiencies are found out by the surveyor, the same should be reported to the D.G. Shipping and the concerned port state, if the ship is in the port. The Central Government, through the D.G. Shipping should ensure the correctness of the survey conducted. The port states upon the request from the surveyor should take all steps to detain the vessel and require it to comply with the specifications under the rule so that without reasonable delay it is allowed to sail into the next port of call without offering any threat to the marine environment.

This system would work properly only if it is well co-ordinated by the office of the D.G. Shipping. There should be effective port state control and

⁸⁶ *Supra* n.69

ship owners should be committed to submit to the rules. If the ship is not in the port state at the time of renewal of the certificate, it may be given up to three months' time to reach the port. Thus, the survey requirements are ensured under the Act. But the implementation would require effective co ordinations of various departments.

Design Specification on Board

Every ship specified under the Merchant shipping rules⁸⁷ is required to equip with one of the specified sewage treatment systems. This system should be a sewage treatment plant as per the specifications of the IMO; a sewage communiting or disinfecting system or a holding tank. Either of the first two specifications is mandatory within the 3 nm zone including the ports and in accordance with the specifications of the D.G. Shipping in India. Standard discharge connections are specified under the rules⁸⁸.

Discharge Specifications

If the sewage is not comminuted or disinfected, the discharge shall be beyond, twelve nautical miles that is beyond the territorial sea limit. If comminuted or disinfected, it may be discharged beyond three nautical miles⁸⁹ and in both cases it should be discharged at moderate rate and not instantaneously. In all other cases, sewage shall be stored on board in separate holding tanks and may be emptied only into the reception facilities available on shore or *en route* into the high seas⁹⁰. During any survey of these operational requirements, if the surveyor notices that the master or the crew is not aware of the operational requirements on

⁸⁷ *Id.*, r. 3, op. cit. 84

⁸⁸ *Id.*, r. 10

⁸⁹ *Id.*, r. 11

⁹⁰ *Id.*, r. 12

board; legal proceedings can be initiated against them⁹¹. A fine of thousand rupees can be imposed for any violations of this rule⁹².

The M.S (Prevention of Pollution by Garbage from Ships) Rules, 2009

Garbage is defined as,

“all kinds of victual, domestic and operational wastes, excluding fresh fish and parts thereof, generated during normal operations of ship and liable to be disposed of continuously or periodically except those substances which are defined or listed in other Annexures to” MARPOL⁹³.

The rule imparts general obligation on all ships to comply with its provisions. Subject to same exception⁹⁴, “disposal into the sea of all plastics, including synthetic ropes, synthetic fishing nets, plastic garbage bags, incinerator ashes from plastic products which may contain heavy metals and toxic residues shall be prohibited”⁹⁵. No discharge into the sea is permissible within three nautical miles, which includes the ports⁹⁶. Dunnage, lining and packing materials that float shall not be released into sea areas less than 25 nautical miles from the nearest land⁹⁷. Garbage including paper products, rags, glass, metals, bottles, crockery and food wastes may not be released unless it is passed through a comminuter or grinder and should not be disposed within the 12 nautical miles zone from the nearest land.

⁹¹ The Merchant Shipping Act 1958, s. 356 H

⁹² The Merchant Shipping Act 1958, s.458

⁹³ The M.S (Prevention of Pollution by Garbage from Ships) Rules 2009, r.1(e)

⁹⁴ *Id.*, r. 4,5 and 6

⁹⁵ *Id.*, r.3

⁹⁶ *Id.*, Cl. II

⁹⁷ *Ibid*

These provisions are not applicable when the discharge of garbage occurs to ensure safety at sea, of cargo, to protect life, escape due to damage of the ship or its equipment and any accidental discharge even after taking reasonable care to prevent it⁹⁸

Port Reception Facility

The Central government shall provide with reception facilities at ports for receiving residues of garbage from ships⁹⁹. If there is any inadequacy of port reception facility the ports, the matter can be intimated to the IMO.

Port State Control

The rule provides for port state control inspections¹⁰⁰ and empowers D.G. Shipping with the powers to detain the ship in case of wilful violations and to initiate legal proceeding against the owner, master and crew of the vessel in case if the operational requirements are not known to them¹⁰¹.

Garbage Management Plan and Garbage Record Book

The Merchant Shipping (Prevention of Pollution by Garbage from Ships) Rules, 2009 mandates keeping on board a 'garbage record book' which should be properly maintained with appropriate entries on time about every discharge operation. It is required that every ship of 400 gross tons or more and every ship capable of carrying 15 passengers on board should have a garbage management plan which should contain details on storing, processing and discharge of garbage. The plan should be in accordance with the guidelines of the IMO. Every ship twelve metre or more in length should clearly inform the crew and passengers about disposal requirements under the rules¹⁰² and

⁹⁸ *Id.*, r. 6

⁹⁹ *Id.*, r.7

¹⁰⁰ The Merchant Shipping Act, 1958, s.356G

¹⁰¹ *Id.*, r. 8. Also *See, Supra* n. 78

¹⁰² *Id.*, r. 3 & 5

procedures by means of placards¹⁰³. A fine of 1000 rupees may be imposed for violations of the rules. Additional fine of 50 rupees per day can be levied if the offence is continuing in nature.

Major Ports (Prevention and Control of Pollution) Rules, 1991

The vessel should not discharge, throw, place, empty, allow to leak or flow within the limits of a major port any pollutant¹⁰⁴. Pollutant is defined as,

“...sewage, garbage, earth, ashes, stones, rubbish, waste material, refuse, chemicals or any other harmful or noxious substance if it affects the nature, colour, smell or transparency of the water or if it forms visible floating fractions on water”¹⁰⁵.

‘Garbage’ according to the rule means

“all kinds of victual domestic and operational waste; generated during the normal operation of a ship and liable to be disposed of continuously or periodically except these substances which are defined or listed in Annexures I to IV to the IMO Convention”¹⁰⁶.

Thus, oil, noxious liquid substances, harmful substances in the packaged form and sewage as mentioned under the MARPOL does not fall under the definition of garbage under the rules.

Disposal of Garbage

If ship board incinerator is not present, the master of the vessel should ensure that all garbages are disposed into the shore reception facility alone. If

¹⁰³ *Id.*, r. 9

¹⁰⁴ *Id.*, r.3

¹⁰⁵ *Id.*, r. 1 (k)

¹⁰⁶ *Id.*, r. 1(d)

incinerator is there, he should assure that garbage do not accumulate or lay scattered on board¹⁰⁷. Twenty four hours' notice should be given to the port authority if the vessel needs reception facility on shores¹⁰⁸.

Precautions in Ports to be followed by the Master

It is the duty of the master to ensure, before cargo operations are carried out that all sea valves are properly closed, connecting valves are well maintained, safety checklists mentioned under the international safety code are maintained and the procedures mentioned under the pollution checklist has been complied with. The onus of proof is on the master to prove that any escape of pollutant was irrespective of reasonable care taken to avoid loss. In case the master notices any spill of contaminated water from the vessel, the same should be reported to the port authority¹⁰⁹. He should make available all record books mentioned under the MARPOL for inspection and should assist in survey and inspections¹¹⁰.

Assessment of Port Reception Facilities

The assessment of port reception facilities are to be done based upon the number and types of ships visiting the particular port, the requirements of ships and according to the size and location of the port¹¹¹.

The government when assessing the adequacy of reception facilities should consider the infrastructural limitations for recycling of wastes and the constraints as to the choice of treatment and disposal of garbage received from

¹⁰⁷ *Id.*, r. 23

¹⁰⁸ *Id.*, r. 11

¹⁰⁹ *Id.*, r. 19

¹¹⁰ *Id.*, r. 21 and 22

¹¹¹ MARPOL 73/78, Guidelines to Annex V

ships. In the national programme of waste management schemes the relevant international requirements and standards should be incorporated¹¹².

The international guidelines require close interactions between the government, port authority and the local authority in adopting the best practice for ship generated waste and cargo residue disposal, the port-by-port listing of available reception facilities and the type of wastes they are equipped to handle in accordance with their capacity and any special procedures for their disposal. This information has to be submitted to the Global Integrated Shipping Information System of the IMO. Without the compliance of these requirements, ports may not be able to do trade in future. Governments are encouraged to develop policies and practices that facilitate the reduction, use and recycling of ship-generated garbage and the adoption of modern waste reception facilities.

In India, the normal practice is to entrust this assessment task to private consultancies. Based upon their report, the waste management plan will be prepared for the port. Many ports are just into the process of preparation of these plans¹¹³. Many are yet to implement this important international requirement.

Working of the Waste Management Plan in Ports¹¹⁴

The system to facilitate collection and disposal of wastes is carried out through licensed contractors duly authorized by port authorities. The Port publishes tender documents that normally set the pre-qualification criteria requiring valid registration certificates to be possessed by the bidders from the Central Pollution Control Board or the State Pollution Control Board. In

¹¹² *Id*

¹¹³ Chennai port, EOI / CON / 04 Dated 15th March 2012, *See*, <http://www.chennaiport.gov.in/downloads/EOI-ConSer-SolidWasteMgt.pdf>, last visited in December 2013

¹¹⁴ Based on the Waste Management Plan of Jawaharlal Nehru Port Trust, Murmogoa, Chennai and Mumbai Ports, available at their respective websites.

addition to this, the licensees must possess the certificate of consent to operate such plants¹¹⁵. They should also have the requisite authorization under the Hazardous Wastes (Management, Handling and Trans boundary Movement) Rules, 2008 from the State Pollution Control Board. These licensees should also take certificates from various other agencies¹¹⁶. A bidder possessing all these certificates need not qualify the tender as it is the duty and responsibility of the port authority to decide upon the agency to be licensed to dispose of the wastes from ships¹¹⁷. There are also chances that the licensee appointed need not be well trained and equipped to handle the waste disposal as per the international requirements¹¹⁸.

A vessel that requires the disposal of sewage or garbage contacts its agent, who in turn will submit the request to the port authorities.

The requirement of the sewage reception facility is usually provided through road tankers belonging to the contractor which can off load the sewage in the sewage treatment plant at township or any other designated and recommended plant.

These facilities are charged by port authority. The garbage is disposed at designated place provided by port planning & development department outside

¹¹⁵ The Water (Prevention and Control of Pollution) Act, 1974, s. 25 & 26, the Air (Prevention and Control of Pollution) Act, 1981, s.21. The State Pollution Control Board is the issuing authority

¹¹⁶ Industrial Registration Certificate, Import & Export Certificate, Central Excise Registration Certificate, Central sales certificate, Explosive Licence and approval of the Customs Department

¹¹⁷ The Merchant Shipping Act, 1958, s.356 I

¹¹⁸ *Nuruzzaman Khan and Others v. The Union Of India*, W.P. 29805 (W) of 2013, decided on 1st October 2013 by the Kolkata High Court, reported in India Kanoon, See, <http://www.indiankanoon.org/doc/85797734/>, last accessed in December 2013

the Port area. As of now, very few ports are having a solid waste management facility for treatment of garbage waste within the port area.

The port's emergency action plan will be followed in case of any emergency arising out of the handling of wastes. The emergency action plan contains procedures for mitigating the impacts of accidental spills, leakages of noxious substances, fire or explosion.

The waste management plan is subjected to periodic audit and review in every two years. The guidelines in this regard are issued by the D.G. Shipping. The overall co-ordination of the waste management plan is done by the deputy conservator. He should ensure that all vessels entering the ports are made aware of the waste reception facilities available at each berth.

Conclusions

Reducing the discharges of sewage and garbage into the oceans will certainly facilitate protection of marine environment. This can be achieved by implementing the objectives set out in MARPOL 73/78, by reducing on board ship generated waste, improving the availability of port reception facilities and the enforcement regime. The introduction of MARPOL annexures has reduced the entanglements and ingestions to marine biota in some places, but at some other locations the situations remain the same or without much improvement¹¹⁹. The MARPOL implementation to a great extent depends upon the ship owner's willingness to stick on to the provisions of the annexures and the regulations of the ISM Code. The reduction of pollution may also depend upon the waste management plans and standards set by the home port, port of call and requirements and plans to be carried out on board.

¹¹⁹ A. Carpenter and S.M. Mac Gill, "The EU Directive on port reception facilities for ship-generated waste and cargo residues: the results of a second survey on the provision and uptake of facilities in North Sea ports", *50 Marine Pollution Bulletin* 1541 (2005)

In India, ships continue to discharge vast amount of plastics and sewage illegally into the oceans and this shows gross neglect of the provisions of MARPOL. If economic costs involved with the compliance are exorbitant, companies may practice illegal discharging into the sea. Unfortunately, waters of developing countries like India are highly susceptible to this non-compliance and illegal discharging of ship generated wastes because of the lack of proper laws and poor enforcement regime. The domestic law should clearly address the legal, financial and practical responsibilities of all concerned in the operation of delivery and disposal of ship generated waste in ports.

Therefore, port waste management forms an important agenda for port administrations. The ship generated waste and cargo residues need to be regulated properly. “Reduce, re-use and recycle” should be an important principle of port waste management.

Waste fee should be charged on all vessels visiting the ports, irrespective of the fact whether they use it or not. This should be included in the port taxes. The cost recovery system will definitely encourage the disposal of waste on land rather than its illegal dumping at sea.

Along with strict punitive or negative incentives, government may also consider giving positive incentives to those who comply with the requirements. These incentives can be tax incentives, loan guarantees or government subsidies.

In order to minimize the burden of providing for port reception facilities for wastes, ship board management plan should be encouraged. The flag states should provide incentives to ship owners to purchase and install equipment such as incinerators on board. The government should encourage research and development of technology for the compliance with MARPOL for ships and ports.

When amending the domestic legislation, voluntary practices adopted by the shipping industry to comply with MARPOL can also be considered.

In India, private contractors collect wastes from ship and this system does not encourage the delivery of waste on land. A change is worth consideration. Port administrations need to do a lot on proper management of waste received from ships.

CONTROL MEASURES TO PREVENT ACCIDENTAL POLLUTION IN INDIAN PORTS

Vessel sourced accidental pollution in ports is the hidden risk associated with increased maritime traffic. But its chances are often neglected until it occurs¹. “Neglect until some event dramatizes an old and hidden but significant danger and then over reaction”, as noted by a risk management scientist². Some of the worst maritime casualties in the recent past must have contaminated the oceans with over 192000 tons of oil³. The Organization for Economic Co-operation and Development study report says that vessel accidents are more frequent in ports than on high seas⁴. The reason may be that ports are highly exposed to traffic congestions. Another reason may be that recurrent human and navigational errors occur more frequently during vessel operations in ports.

¹ See UNCTAD, Review of Maritime Transport (2010), p. 3. It states, “In January 2010, there were 102,194 commercial ships in service, with a combined tonnage of 1,276,137 thousand dwt. Oil tankers accounted for 450 million dwt (35.3 per cent) and dry bulk carriers for 457 million dwt (35.8 per cent), representing annual increases of 7.6 and 9.1 per cent respectively.”

² John R. Harrald, et.al, “The EXXON Valdez: An Assessment of Crisis Prevention and Management Systems”, 20 *Interfaces* 16 (1990)

³ International Tanker Owners Pollution Federation Limited (ITOPF) Statistics, Trends in Oil Spills, updated for 2013, See, <http://www.itopf.com/information%2Dservices/data%2Dand%2Dstatistics/statistics/>, last accessed in December 2013.

⁴ The Environmental Effects of Freights, Organization for Economic Co-operation and Development, work Programme on Trade and Environment (1997), See, <http://www.oecd.org/dataoecd/14/3/2386636.pdf>, last accessed in December 2013

There has been tremendous rise in maritime transport coupled with oil exploration along the Northern Indian Ocean region, exposing the Indian coastal line highly vulnerable to maritime casualties⁵. Most of the Indian ports are at geostrategic location, along the two busiest oil routes connecting Persian Gulf with Mozambique Channel⁶. In order to avoid the risk of Somali pirate attacks, a large number of ships in transit are reported to be sailing very close to the shores of India⁷. Hence, all major ports in India are under high alert on chances of major maritime casualties due to traffic congestions⁸. This risk is predicted to be even higher during the monsoon season⁹. In the last four years there have been 153 maritime accidents reported in India, out of which, 78 ships involved were of Indian flags¹⁰. The environmental threats from shipping accidents may be more detrimental for a developing country like India, where the prevention, preparedness and response systems may not be comparable with international standards. The inefficiency of the Ministry of Shipping, Ministry of Environment and Forests and the Ministry of Home affairs in

⁵ R. Sen Gupta, Sugandhini Naik and V. V. R. Varadachari, *Environmental Pollution in Coastal Areas of India, Ecotoxicology and Climate*, in P. Bourdeau, J. A. Haines, W. Klein and C. R. Krishna Murti (Ed.), Published by John Wiley & Sons Ltd, (1989), See, http://dgs.stanford.edu/SCOPE/SCOPE_38/SCOPE_38_5.1_Gupta_235-246.pdf, last accessed in December 2013

⁶ Road Map for Oil Spill Management for India, Prepared and Submitted by the Project Review and Monitoring Committee for Oil Spill Management, Government of India (2003)

⁷ The Ministry of Shipping Notice No. 7 of 2012, Warning Notice for Fishing Boats Transgressing of Fishing Nets Mistaken for Pirate Skiffs, dated 7th March 2012, p.2, para.6, available at http://www.dgshipping.com/dgship/final/notices/note7_2012.pdf, last accessed in December 2013

⁸ *Id.*, p.64

⁹ The M.S. Notice 18 of 2009, No:11-NT(058)/2007, dated 09.04.2009

¹⁰ See, http://articles.timesofindia.indiatimes.com/2012-12-19/india/35911638_1_indian-ports-cargo-ships-marine-accidents, last accessed in December 2013

coordinating the response systems in the past during the grounding of M.V. *Rak Carrier* and M.V. *MSC Chitra* had invited wide media criticisms.

Even among the most modern maritime countries, there has been no consensus as to how the industry and government should respond in case of major casualties. It took more than a decade to curate the effects of the *Torrey Canyon* Spill. Speaking on the topic, White, Nicholes and Garnette wrote, “Little progress has been made over the past decade to reduce the impact of oil spills to the extent that available technology should allow”¹¹. It may take years to mitigate the serious environmental and ecological impacts from a disastrous oil spill and the costs for cleaning-up process may be exorbitant¹². A spontaneous and technologically advanced regulatory system is indispensable to prevent hyperthetical blows to the port environment from shipping incidents.

Under the aegis of IMO, the international law on vessel sourced accidental pollution has achieved significant milestones that the number of tanker accidents has come down considerably¹³. Yet, a single event may transpose the entire statistical data on profound consequences. Therefore, many western countries have revised the laws controlling vessel movements in ports

¹¹ (1979), at p. 247, Quoted in John R. Harrald, “Contingency Planning: Building the Infrastructure for Crisis Decision Making”, 8 *International Journal of Mass Emergencies and Disaster* 137 (1990)

¹² See, www.itopf.org, shows a detail account of all major international oil spill incidents. A case summary on the *Exxon Valdez* disaster describes it as the greatest oil spill in U.S. waters till now, spilling around “37,000 tonnes out of its 1,85,000 tonnes cargo of Prudhoe Bay crude oil”, affecting almost 1100 miles in Alaska. The cleaning up process that had begun in April 1989 continued until 1991

¹³ *Supra* n.3. As a result of stringent prescription and enforcement standards at the international level, there has been a considerable fall in the number of major accidental spills. The year 2011 recorded only a single large spill and four medium spills

as a precautionary measure against maritime casualties'.¹⁴ Many of these countries have detailed legislation covering the topic as they have conceptualized the risks of accidental pollution from a blooming economic perspective. Hence, it becomes important to analyse the Indian standards of control to prevent accidental pollution in ports.

Sources of Accidental Pollution in Ports

Vessel sourced accidental pollution in ports are collisions¹⁵ as in the *MSC Chitra & MV Khalizia III* near the Mumbai Port and the *Hebei Spirit* in Korea, structural failures of vessels such as the engine failure of the *Braer*, failure of the steering gear as in the *Amoco Cadiz*, hull failure like in the *Erika* and the *Prestige*, groundings¹⁶ like in the *Torrey Canyon* and the *Exxon Valdez*, fires and explosions on board the vessels and pollution from improper port operations¹⁷. It is identified that human error¹⁸ during routine operations like improper operations of valves and substandard handling of hose

¹⁴ Nengye Liu & Frank Maes, "Prevention of Vessel-Source Marine Pollution: A Note on the Challenges and Prospects for Chinese Practice under International Law", 42*Ocean Development & International Law* 356 (2011). The authors quote that since 1983, the MARPOL and SOLAS have undergone considerable development. The European Union has strengthened its law on vessel source pollution after the *Erika* in 1999 and *Prestige* in 2002, the United States after the *Exxon Valdez* in 1989 and South Korea after the *Hebei Spirit* incident in 2007

¹⁵ See, *Supra* n.3, Accounts for around 51% of vessel accidental pollution

¹⁶ *Id.*, Accounts for 21% of the major spills

¹⁷ *Id.*, In the United States', accidental spills from cargo handling were reported to be on large proportion

¹⁸ Almost 75 to 96% of vessel accidents are caused by human error. See, A. Rothblum, U.S. Coast Guard Research & Development Centre, "Human Error and Marine Safety", http://www.geovs.com/_UPLOADED/Human%20Error%20and%20Marine%20Safety.pdf, last accessed in December 2013

connections is the chief cause of vessel accidents¹⁹. The greatest maritime casualties like *the Titanic* and *Exxon Valdez* are also reported to have happened because of poor navigational aiding and ship operations by the crew. It is thus understood that unsafe vessel operations in port area is a major concern to be clogged and to achieve this, the safety laws and laws ensuring crew competency should be tightened²⁰.

General Scheme of Control under UNCLOS III

The general framework of control of accidental pollution can be found in the International law. Since, licensing and certification of vessels belong to the jurisdiction of flag states; it is their primary responsibility to ensure seaworthiness of vessels sailing into the oceans.

Towards this, flag states are required to conduct periodic inspections in order to ensure that their ships carry on board valid certificates under various conventions²¹. In case of violations of pollution control laws, flag states will have to investigate, prosecute and punish the ship with stringent penalties²².

The port states are required to co-ordinate these control measures in ports by means of port state control. Port state control inspectors should verify the documents of the ship and ensure that it is safe to continue the voyage. Or else, international law empowers the port states to detain the ship so that it cures the deficiencies²³. These enforcement measures can be initiated only

¹⁹ D. Abecassis and R. Jarashow, *Oil Pollution from Ships: International, United Kingdom and United States Law and Practice*, 2nd edition, Stevens & Sons Ltd, London (1985), p. 63

²⁰ Glen Plant, "Safer Ships, Cleaner Seas: Lord Donaldson's Inquiry, the UK Government's Response and International Law", 44*The International and Comparative Law Quarterly* 3, (1995), p.3

²¹ UNCLOS, III, art. 217 (1) – (3)

²² *Id.*, Cl. (4)-(8)

²³ *Id.*, art. 218 & 219

upon the request from flag states or the concerned coastal state and includes the arrest and detention of the vessel, and a release under an undertaking that it is sailing to the nearest repair yard²⁴. If the suspicions fall short of ample evidence the inspecting port state is liable to pay damages for the undue delay caused to the ship²⁵. The pre-emptive provisions of the UNCLOS further emphasize on flag state implementation and limits un-necessary interruptions by the port states²⁶.

Efforts were made towards screwing up flag state implementation. Also, pressure has been made on the industry to eliminate substandard shipping by the joint efforts of port states and industry organizations such as the International Association of Classification Society, *Comite Maritime International*, International Association of Independent Tanker Owners²⁷, International Group of Protection and Indemnity Clubs and the Oil Companies International Marine Forum²⁸.

The coastal state could not prescribe laws and regulations that are applicable to construction, design, manning and equipment standards of foreign ships unless they are giving effect to 'generally accepted international rules or standards'²⁹. Now, what constitutes '*generally accepted international rules and standards*' are to be analyzed. These are the conventions and treaties under the aegis of the International Maritime Organization. These rules and regulations are in fact true depictions of major maritime flag interests at the conferences of the IMO. The port states with minor shipping interests hardly inspire any of

²⁴ *Ibid*

²⁵ *Id.*, art. 232

²⁶ UNCLOS III, arts. 230, 231 and 232

²⁷ Herein after to be referred to as the INTERTANKO

²⁸ Heike Hoppe, "The Work Of The Subcommittee On Flag State Implementation," *IMO News*, No. 4 (1999), pp. 21-27

²⁹ UNCLOS III, art. 21(2)

these standards adopted at the conferences. The port states wish that the costs for implementing standards of safe shipping should be borne by flag states. The flag states in turn are reluctant to recognize the hegemonic shipping safety regime demanded by a small group of port states. The port states have neither legislative competence nor technology sophistication for the strict enforcement of the prescribed international standards at the domestic level. As a result, strict port state enforcement mostly remains on papers.

Some of the dominant maritime countries are so advantageously placed that they may even prescribe unilateral legislations and set standards higher than those prescribed under the IMO conventions thereby forcing port states to enforce it exclusively over vessels and crew, if the latter wishes to trade with the former³⁰. Such incidents have pulled down the international efforts to bring in uniformity in the port state enforcement measures. The IMO at the apex level co-ordinates safety in shipping and various self-regulatory NGOs support it. Despite this, the issue of substandard shipping continues to plague the industry. The problem is identified because of ineffective co-ordination, inadequate sharing of data regarding substandard ships³¹ and the reluctance of individual port state control officers³² and self-regulatory organizations³³ to recognize the vetting inspections and other surveys conducted by each other. This could be cured by entering into memorandum of understanding between

³⁰ J.E. Vorbach, "The Vital Role of Non-Flag State Actors in the Pursuit of Safer Shipping", 32*Ocean Development & International Law*27(2001)

³¹ For Example the OCIMFs ship inspection report program (SIRE) and INTERTANKOs maritime database allow members and some non-members like national regulators to access information on substandard ships. If this data is properly shared between national and industry regulators, it would have been easy to track substandard ships and the governments would have been able to take better decisions on eliminating them from the industry.

³² Herein after to be referred to as the PSCOs.

³³ Here in after to be referred to as the SROs

the organizations, whereby efficiency in surveys and inspections can be maintained and duplications and unnecessary hurdles for shipping operators can be eliminated³⁴.

The Construction, Design, Equipment and Manning Standards and Physical Seaworthiness of the Vessel

It has been widely recognized that preserving the integrity of ship is the best way to ensure safety³⁵. Safety and pollution control though distinct are inter-linked concepts. Various externalities like un-seaworthiness of the ship and improper safety systems in ports may run the risk of accidental pollution. It is certain that construction design equipment and manning³⁶ standards are very important to ensure seaworthiness and to rule out the risk of vessel sourced accidental pollution. The CDEM standards include the physical seaworthiness and structural qualities in maintaining the stability of the vessel, the equipment it carries and the competency of the crew on board.

The international law on CDEM standards may be found generally under international conventions such as the SOLAS 74³⁷, the MARPOL 73/78³⁸, the COLREG 72³⁹, the STCW 74⁴⁰ and various guidelines issued by

³⁴ For example, *See*, the memorandum of understanding between the U.S coast guard and the American Bureau of Shipping, whereby the latter is allowed to conduct inspections on some vessels.

³⁵ *Supra* n.20, at p.3

³⁶ Here in after referred to be the CDEM

³⁷ The International Convention for the Safety of Life at Sea, 1974, and the Protocols in 1978 and 1988

³⁸ The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978

³⁹ The Convention on International Regulations for Preventing Collisions at Sea, 1972

⁴⁰ The International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978

the International Maritime Organization⁴¹. The guidelines are mandatory under SOLAS regulation⁴² for bulk carriers and oil tankers which are more than five years old. The guidelines are also mandatory under the MARPOL⁴³. The guidelines prescribe for complete, enhanced and transparent survey of hull structure and piping systems in accordance with the SOLAS 74 specifications. The surveyor should ensure the completeness of documents on board. In case any corrosion or structural defects are identified, the matter should immediately be reported before the administration and the ship should undertake correction measures before sailing to the next port. The guidelines have specifications on enhanced surveys during preliminary, periodic, annual and intermediate surveys. The chief objective of enhanced surveys is to ensure the stability of the vessel by periodic and timely evaluations and reporting of deficiencies found to the administrations as well as ship owners.

The Prescriptive Standards for Preventing Vessel Accidents under the SOLAS 74

Under the SOLAS 74, the fire safety provisions are more stringent for tankers when compared to ordinary cargo vessels as they carry more risk because of the oil, chemicals and other hazardous substances on board⁴⁴. Therefore, the convention provides for compulsory establishment for 'inert gas system' for all newly constructed tankers and for those of 20000 Dead weight ton⁴⁵ or above. Non-explosive gases are filled from ship's boiler flue in empty tanks and on the top of that oil is loaded in order to eliminate every single risk of spark which may lead to an explosion. In order to eliminate the risk of

⁴¹ For example, the IMO Resolution A.744 (18) had adopted the IMO Guidelines on Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers.

⁴² The SOLAS, 1974, ch. XI/2

⁴³ The MARPOL 73/78, reg.13G (3)

⁴⁴ The SOLAS 74, Ch. II, amended on 1st January 2002

⁴⁵ Herein after to be referred to as dwt

mechanical failure, SOLAS 74 requires the duplication of steering gears and almost all the navigational equipment. This compulsory regulation was incorporated in response to the stranding of *Amoco Cadiz* on 16th May, 1978 following her steering gear failure. Mandatory towing arrangements were insisted to be created before 1st January 1999 for all existing tankers and those new ones above 20000 dwt built after 1st January 1996.

Safety Management to Control Pollution under the ISM and ISPS Codes

In the wake of *The Herald of Free Enterprise*⁴⁶ and *The Estonia*⁴⁷ tragedies, the U.K government had heavily lobbied the IMO to implement the ‘International Management Code for the Safe Operation of Ships and for Pollution Prevention’ (ISM) by its formal incorporation into SOLAS 74. It is mandatory under the SOLAS that all member states should implement the ISM code by incorporating it in the domestic law. If there is any contradiction between the domestic law and the ISM code, the domestic law would prevail. But the party would be deemed to have committed a breach of duty to implement SOLAS 94.

The protection of marine environment is one among the chief objectives of the code⁴⁸. The ship owners are under obligation to set the standards for achieving the objective of the code by formulating safety management system⁴⁹. The main purpose of SMS is to ensure that equipment are properly

⁴⁶ *The MV Herald of Free Enterprise*, 6 MLAANZ Journal(1989).

⁴⁷ Research report on the sinking of *MV Estonia* by the Swedish government, 2005 See, <http://www.sspa.se/files/estonia/Final-Report-Research-Study-on-the-Sinking-Sequence-of-MV-Estonia.pdf>

⁴⁸ The Preamble of the ISM Code states, “1. The purpose of this Code is to provide an international standard for the safe management and operation of ships and for pollution prevention”. Dr Aleka Manadaraka-Sheppard, *The International Safety Management Code in Perspective*, P&I International, (1996), p. 107

⁴⁹ Herein after to be referred to as the SMS, *Id.*, s.1.4

tested and maintained, the staff are properly trained and fully informed of the equipment, deficiencies are met up- all being done to ensure good practice in safer and pollution free shipping, the absence of which would render the vessel unseaworthy⁵⁰.

Under the code, the vessel has to undergo regular maintenance and equipment tests and audit its environmental report. Accordingly, the ISM Compliance certificate⁵¹ and the Ship Management Certificate⁵² will be issued to the company. These certificates are issued by flag state administrations initially for five years but require periodic inspections annually and in every 2-3 years⁵³. The ship management should maintain annual audit reports as to the compliance of ISM Code on board and with off shore agencies.

The code is established at multilateral level by the IMO in such a way that the flag state will enforce it while port states and other entities ensure its safety compliances. The responsibility for the verification of the code is on the flag states. Ship owners seeking classification and P& I insurance would be required to possess ISM compliance certificate. Those who do not possess ISM Compliance certificate will be targeted by the PSCOs.

The ISPS Code

The Maritime Security Conference of December 2002 of the IMO incorporated the International Ship and Port Facility Security Code (ISPS Code), by formally amending SOLAS 74. The main objective of the code is to ensure safety on board ships and at ship-port interfaces. The code details duties on the governments, port authorities and shipping companies to ensure security of the ship at various levels. Although the code was adopted in the light of

⁵⁰ *The Toledo*, (1995) 1 Lloyd's Law Report. 40, at p. 50; *The Lydia Flag* (1998) 2 Lloyd's Law Report. 652

⁵¹ Herein after to be referred to as the DOC

⁵² Herein after to be referred to as the SMC

⁵³ The SOLAS 94, Ch. IX, reg.4 & 6

recent threats from maritime terrorism, certain provisions of the code has got application in ensuring ship stability, subdivision and over all safety.

The code provides for a ship security plan and also port security plan. There shall be designated security officers both in ports and on board to implement the plan. The national level administrations should set the level of security in ports and it is the duty of flag administrations and shipping companies to raise their security plans to this level in all ports of call⁵⁴. The provisions entrusts with the master of the vessel the duty to act independently up on his judgment in accordance with the security plan to ensure safety of the ship.

The code also provides for security alert systems, unique identification number and continuous synopsis record⁵⁵ for the ships. Every ship shall be fitted with the Automatic Information System⁵⁶.

The code gives specifications for additional safety requirements on design and construction for bulk carriers⁵⁷. As per the new regulations⁵⁸, the water level detectors require high level alarms and monitoring systems to check water ingress. Under regulation⁵⁹, “pumping systems requires the means for draining and pumping dry space bilges and ballast tanks any part of which

⁵⁴ The SOLAS 2002, Ch. XI-2 reads, Special Measures to Enhance Maritime Security

⁵⁵ Herein after to be referred to as the CSR. The CSR should detail the history of the ship like name of the ship, flag state, the date of flag state registration, identification number, the port state registration, registered owner(s) and their registered address. The CSR should be updated with all subsequent changes regarding the history of the vessel

⁵⁶ Herein after to be referred to as the AIS. The SOLAS 2002, Ch. V

⁵⁷ *Id.*, ch. XII

⁵⁸ *Id.*, reg. 12

⁵⁹ *Id.*, reg.13

is located forward of the collision bulkhead to be capable of being brought into operation from a readily accessible enclosed space”.

There are provisions relating to construction- structure, subdivision and stability, machinery, and electrical installations⁶⁰. As per the regulation, “each space within the cargo area is to be provided with an appropriate means of access to enable, throughout the life of a ship, overall and close-up inspections and thickness measurements of the ship’s structures to be carried out”⁶¹. The code has specifications on machinery automation systems, designed to give sufficient warning to the navigation officer about imminent slow down and shut down of the propulsion system in order to meet an emergency⁶². It also provides for fire protection, fire detection and fire extinction systems⁶³. The convention is amended to incorporate the mandatory International Maritime Dangerous Goods Code⁶⁴.

Legal Consequences of Non- Compliance with the Safety Codes under SOLAS 74

Any report of non-compliance with ISM Code would make the ship unseaworthy under the Hague –Visby rules⁶⁵. In *Ingram & Royle, Limited v. Services Maritimes du Treport*⁶⁶, the ship owner embarked certain bags of metallic sodium saturated with petrol which was inefficiently packed and was stowed with inadequate care. The vessel underwent rough weather; the bags got loosened and came into contact with water resulting in many explosions. Finally, fire broke out on board. Subsequently the cargo was lost by reason of

⁶⁰ *Id.*, ch. II, reg.1

⁶¹ *Id.*, reg. 1/3-6

⁶² *Id.*, reg.13

⁶³ *Id.*, ch. II

⁶⁴ The SOLAS 2002, ch. VII, Herein after to be referred to as the IMDG code

⁶⁵ Hague-Visby rules, art. III, rule.1 & art. IV, rule. 1

⁶⁶ (1914) 1 K.B. 541

fire. Held, the vessel was unseaworthy because of bad stowage and was charged for violations of the ISM Code and thereby the Hague- Visby Rules.

A ship should carry all navigational documents, ship board emergency plans and all other documents for safe loading and unloading of the cargo in order to get a port entry. It is the duty of the ship owner to make available to the crew all the navigational documents including sailing charts, mariner notifications and all other nautical publications that would allow her to navigate safely. In *Grand Champion Tankers Ltd. v. Norpipe A/s and Others (The Marion)*⁶⁷, the vessel was awaiting berthing at Teesside. The master wanted the vessel to anchor somewhere near the loading and unloading point until a berth is allotted for the vessel. The nautical chart was an old one and he was not aware of Ekofisk pipeline laid in this area. Hence, the court held that the vessel was unseaworthy due to lack of up-to-date charts and the deficient system to supervise this operation.

The adequacy of documents may change along with each voyage, depending upon the law of the flag state and port of call concerned⁶⁸. The ISM Code requires that all the safety documents on board of the vessel are mandatory for every voyage and it has to be updated⁶⁹. The code casts the duty upon the ship owner to ensure that all documents are up dated and kept ready for a particular voyage. Similarly, the ship should also carry emergency plans on board to tackle any crisis during a voyage. This is more important when the engineering crew on board is inexperienced. They can refer the manuals in order to familiarize the engine specifications.

Absence of any of these documents may render the port entry and cargo discharge difficult.

⁶⁷ [1982] 2 Lloyd's Rep. 52, p. 57

⁶⁸ *Alfred C. Toepfer Schiffahrtsgesellschaft G.M.B.H v. Tossa Marine Co. Ltd.* [1985] 2 Lloyd's Rep. 325, at p. 331

⁶⁹ The ISM Code, s.11

In India, ISM Code is mandatory by means of the D.G. Shipping notice of 2003⁷⁰. Thereafter, the IMO specifications on the code has been updated and incorporated from time to time through the engineering circulars issued by the Director General of Shipping. Hence, all the requirements under the code and certificates ensuring it are mandatory for a port entry in India.

These being the requirements, the success of the Code would to a large extent depend upon the participatory approach on the parts of company managers, crew and the regulators. Generally, in the present scenario, the ISM Code implementation is considered as a burden- some paper work by the crew. Sometimes they maintain it properly. But in most cases they do it of short cuts so as to satisfy the company requirements and as evidences for satisfying PSCOs. They should be educated regarding the fact that all the specifications are for their own safety and that of the ship, to avoid occupational health hazards and to protect marine environment. This could not be achieved unless; there is real participation of managers, crew and the regulators⁷¹.

Elimination of Single Hull Tankers under the MARPOL Scheme

Early phasing out of single hulled tankers and the mandatory requirement of double hulls have been highly controversial as it prescribed expensive and highly sophisticated construction and design standards⁷². Regulations 13G and 13F were the brain child of the United States following the *Exxon Valdez* incident.

⁷⁰ The Director General of Shipping, Engineering Circular 13, International Safety management Code(SIM Code) Compliance for Phase II Vessels, No: ENG/ISM/59(4)/97, dated 2nd July, 2003

⁷¹ Syamantak Bhattacharya, *The Impact of the ISM Code on the Management of Occupational Health and Safety in the Maritime Industry*, Ph.d Thesis submitted to Cardiff University, (2009), available at <http://www.sirc.cf.ac.uk/uploads/thesis/Bhattacharya.pdf>, last accessed in December 2013

⁷² Gini Mattson, "MARPOL 73/78 and Annex I: An Assessment of its Effectiveness", *9Journal of International Wildlife Law and Policy* 175 (2006)

After the incident, the U.S.A passed the Oil Pollution Act 1990, making double hulls mandatory for all U.S. flagged tankers. The author argues that in order to enhance profitability of American oil companies, the United States heavily lobbied the IMO to amend MARPOL 73/78 so as to adopt the double hull requirement for all new tankers. Similarly, the EU introduced its own laws to prevent single hull tankers from sailing in its waters⁷³.

Apart from all the controversies, the double hull requirement is argued to have advantages as against other designs for preventing accidental pollution during collisions. It is compulsory under MARPOL 73/78 that the tankers of or above 5000 dwt constructed after 6th July 1993 have to be equipped with double hulls or any such alternative design as prescribed by the IMO⁷⁴. The convention provides for the option of double-side or double bottom for existing tankers⁷⁵. Accordingly, oil tankers of 600 dwt and above but less than 5,000 dwt were to be fitted with double bottom tanks and the capacity of each cargo tank is limited to 700 cubic metres, unless they are fitted with double hulls by 2008.

In the conference for the adoption of the double hull design, Japan had proposed equally efficient mid-deck design as an alternative. In spite of the United States' serious opposition that design also got recognized by the IMO. Thus, the double bottom and double wing designs are also in practice.

Technical studies reveal that the double hull requirement may reduce the risks of accidental pollution but one cannot say with utmost precision that they are smarter options to replace single hulls *albeit* statistical records prove the contrary.

⁷³ The Council regulation EC 2978/94 on the implementation of IMO Resolution A.747(18) on the application of tonnage measurement of ballast spaces in segregated ballast oil tankers, 1994, and Council Regulation EC 417/2002 on the accelerated phasing-in of double hull or equivalent design requirements for single hull oil tankers and repealing Council Regulation (EC) No 2978/94, 2002

⁷⁴ MARPOL Amendment 1992, reg. 13F, Revised Annex (2007), reg. 19

⁷⁵ *Id.*, reg. 13 H

An ITOPF⁷⁶ statistics reveal that after the adoption of this requirement, the number of major oil spills over 7 metric tons have reduced to a considerable extent⁷⁷. The concept of the double-hull design is based upon the fact that the outer hull being detached from the cargo tanks by some space may ‘absorb low speed impacts’ during groundings or collisions⁷⁸. Owing to the ship owner’s opposition on the grounds of huge cost involved in the implementation of double hulls and upon the argument that if the ship’s hull is breached, double hulls are more prone to sink or capsize⁷⁹, a compromise between the double hulls and other recognized designs was reached in the final amendments⁸⁰.

Phasing Out of Single Hulls

New Regulation 20 in the revised Annex I of MARPOL 73/78 prescribes for a timely schedule for phasing out of the single hull tankers⁸¹. Under the revised regulations, either ships over 30 years need to be altered with double hulls or they will have to be decommissioned. Under the revised schedule, all the Pre-MARPOL oil tankers⁸² have already phased out either by

⁷⁶ *Supra* n.3

⁷⁷ Elizabeth Galiano, “In the Wake of the PRESTIGE Disaster: Is an Earlier Phase-Out of Single-Hulled Oil Tankers the Answer?”, 28 *Maritime Lawyer* 113 (2003), p.8

⁷⁸ E. Duruigbo, “Reforming the International Law and Policy on Marine Oil Pollution”, 31 *Journal of Maritime Law and Commerce* 73 (2000)

⁷⁹ T. Alcock, “Ecology Tankers and the Oil Pollution Act of 1990: A History of Efforts to Require Double-hulls on Oil Tankers”, 19 *Ecology Law Quarterly* 128 (1992)

⁸⁰ A. Griffin, “MARPOL 73/78 and Vessel Pollution: A Glass Half Full or Half Empty?”, 1 *Indiana Journal of Global Legal Studies* 490 (1994). This was actually a compromise between major and minor maritime flag interests

⁸¹ Amendment to MARPOL Annex I

⁸² Those tankers which are not having protectively located segregated ballast tanks and which are oil tankers of 20,000 tons deadweight and above carrying crude oil, fuel oil, heavy diesel oil or lubricating oil as cargo, and of 30,000 tons deadweight and above carrying other oils

April 2005 or on its anniversary delivery date in 2005, whichever was earlier. The speeding up of phasing out of category 2 and 3 vessels were the after effects of the *Erika* incident and the *Prestige* sinking in the European waters. These incidents prompted the European Union to pressurize the IMO to make amendments to the MARPOL schedule thereby gearing up the phasing out period of single hulls. As a result, the MEPC made amendments to MARPOL in 2003, whereby, category I vessels delivered by 1982 or earlier are now already phased out by April 2005 or 2007. The phasing out of category II and III vessels continues as per the schedule decided⁸³.

Category 2 and 3 oil tankers have gradually phased out during the period 2005 to 2010, depending upon its delivery date. The regulation prescribes for a 'Condition Assessment Scheme'⁸⁴ for all single hull tankers above 15 years or more. The scheme permits flag states to operate single hulls of category 2 and 3 either until its anniversary delivery date in 2015 or on completion of 25 years whichever is earlier, provided the ship satisfies the specification under the scheme. Under the revised regulations a port state may deny entry to its ports or carrying oil into its ports by single hull tankers⁸⁵.

Indian Standards on the Phasing out of Single Hull Tankers

In April 2005, India had communicated to the parties to the convention regarding its position as to the application of MARPOL regulations⁸⁶. Accordingly, India has taken full advantage of the provisions of the revised

⁸³ Caroline Stenman, *The Development of the MARPOL and EU Regulations to Phase out Single Hulled Oil Tankers*, Master thesis submitted to the School of Economics and Commercial Law, Goteborg University (2005)

⁸⁴ CAS is applicable to certain types of tankers under MARPOL. It prescribes for enhanced transparent and complete verification of structural conditions of the vessel and that documentary survey and procedures have been effectively carried out

⁸⁵ MARPOL 73/78, reg. 13G & 13H of Annex I, Para 8(b)

⁸⁶ By means of MEPC/Circ. 442, dated 8th April 2005

regulations⁸⁷⁸⁸ and the new regulation⁸⁹ thereby extending the operation of Indian and foreign single hull tankers in Indian waters on the basis of their required conditions until 2015 or on their attaining 25 years whichever is earlier. As of now, India will allow entry of foreign flagged single hull oil tankers into Indian waters provided they have been granted permissions from their respective flag states under the said provisions of the revised regulations

⁸⁷ *Supra* n. 86, cl.5 reads, “Notwithstanding the provisions of paragraph (4) of this regulation, in the case of a Category 2 or 3 oil tanker fitted with only double bottoms or double sides not used for the carriage of oil and extending to the entire cargo tank length or double hull spaces which are not used for the carriage of oil and extend to the entire cargo tank length, but does not fulfill conditions for being exempted from the provisions of paragraph (1)(c) of this regulation, the Administration may allow continued operation of such a ship beyond the date specified in paragraph (4) of this regulation, provided that:

- (a) the ship was in service on 1 July 2001;
- (b) the Administration is satisfied by verification of the official records that the ship complied with the conditions specified above;
- (c) the conditions of the ship specified above remain unchanged; and
- (d) such continued operation does not go beyond the date on which the ship reaches

25 years after the date of its delivery.”

Revised Regulation 13 G (7) reads, “The Administration may allow continued operation of a Category 2 or 3 oil tanker beyond the date specified in paragraph (4) of this regulation, if satisfactory results of the Condition Assessment Scheme warrant that, in the opinion of the Administration, the ship is fit to continue such operation, provided that the operation shall not go beyond the anniversary of the date of delivery of the ship in 2015 or the date on which the ship reaches 25 years after the date of its delivery, whichever is the earlier date.”

⁸⁹ Regarding the exemptions on prohibitions to carry heavy grade oil

and also subject to their compliance with standing orders of D.G. Shipping in India⁹⁰.

Most of the Single hull tankers registered in open registries and engaged in international trade is taking advantage of the extended phasing out schedule. These tankers may find easy entry into Indian ports in the absence of early phasing out schedule as it is practised in the United States and the European Union.

Comparative State Practices Relating to MARPOL Implementation Regarding Construction and Design Specifications

The discretionary jurisdiction of coastal states under the UNCLOS III has been misused by many major maritime countries by the unilateral implementation of CDEM standards prescribed under the MARPOL regime.

“On 8th August 2011, the Gujarat Maritime Board decided to impose ban on over 25 year old vessels ahead of Government plans”.⁹¹ The formal notification to this effect was issued later.

In the wake of the *Exxon Valdez* incident in 1989, the United States Congress had passed the Oil Pollution Act, 1990⁹². The OPA imposed mandatory double hull requirement on all new oil tankers in the U.S. Ports by 2015⁹³. Initially some vessels that were engaged in lightering activities or those

⁹⁰ Shipping Development Circular No.1 of 2008, Revised Guidelines for Chartering of Vessels under Sections 406 and 407 of the Merchant Shipping Act, 1958, No.SD-9/chrt (82)/97-IV, dated 25.04.2008

⁹¹ See, <http://www.thehindubusinessline.com/industry-and-economy/logistics/rak-effect-gujarat-to-ban-entry-of-ships-older-than-25-years/article2340410.ece>, last accessed in December 2013

⁹² Herein after to be referred to as the OPA

⁹³ The Oil Pollution Act, 1990, s.4115, amended Title 46 of the United States Code (U.S.C.), with a new section 3703a. The provisions as to the double hull requirements and phase-out schedule for single hull tank vessels operating in U.S. waters are given

operating in licensed deep water ports, vessels used to respond to oil discharges and those less than 5000 gross tons equipped with the double containment system as prescribed by the United States Coast Guard were given exemptions from this requirement⁹⁴. The existing tankers were either forced to be retrofitted with double hulls on the basis of their age or to retire at their option by 2015. Under the OPA system, the international fleet engaged in oil trade need to have complied with double hull requirement by 2020, if they wish to trade with the United States.

The OPA increased sanctions imposed for breaching the regulations and extended the response of the authorities to establish legislation regulating the prevention of spills of hydrocarbons by oil tankers. The Coast Guard is given wide enforcement powers under the OPA. The double hull requirement has to conform to Coast Guard specifications⁹⁵.

In *Maritans Inc.v. United States*⁹⁶ and in *Lucas v. South Carolina Coastal Council*⁹⁷, the vessels were taken under the double hull requirement of OPA. The U.S. Supreme Court had held that the Coast Guard activity under OPA 1990 belongs to the realm of regulatory taking.

under this section. It excludes single-hull tank vessels of 5,000 gross tons or more from U.S. waters from 2010 onward, apart from those with a double bottom or double sides, which may be permitted to trade to the United States until 2015, depending on their age. From 2000 onwards all Aframax and most of the Suezmax vessels, without double bottoms or double sides over 23 years were banned from U.S trade. The OPA 90 timetable for double hull requirements for single hull tank vessels is set out in 33 CFR part 157, Appendix G, For more details *See*, Criston Cicala, “The Double Hull Requirement of Oil Pollution Act of 1990: Does It Constitute a Regulatory Taking”, 24 *Tulane Maritime Law Journal* (1999-2000)

⁹⁴ *Ibid.*

⁹⁵ *Ibid*

⁹⁶ 29 ELR 21068 [1999]

⁹⁷ 505 U.S. 1003 [1992]

Under the Oil Pollution Act 1990, the U.S phase-out is complete for Post-MARPOL tankers built from 1995 to 2010, except for tankers with double bottoms or double sides and tankers which are less than 5,000 gross tons and tankers that call at LOOP or designated lightering areas.

As per the European Union Regulation 1726/2003⁹⁸, Phase out of Pre-MARPOL tankers was completed in 2005. Prescribed category vessels continued to phase out until 2010. Also, no heavy grade oil is permitted to be carried in single hulls from 21st October 2003. The continuous assessment scheme will be applicable to all categories of vessels over 15 years old.

China has extended the operation of Chinese registered single hulled but double bottom and double sided ships⁹⁹ until the anniversary of the date of delivery of the ship in 2015 or 25 year after the delivery date, whichever is earlier¹⁰⁰. For the pre-MARPOL tankers and Post- MARPOL under the CAS scheme, the Chinese registered vessels are not allowed to be continued in service beyond the date specified¹⁰¹. Foreign flagged double bottom and double sided vessels are denied permission to enter Chinese ports. Also, category 2 and 3 vessels operating beyond the dates specified under regulation but under the CAS scheme¹⁰² are denied to access Chinese ports. This means that all the foreign flagged single hulled oil tankers have ceased out of Chinese waters if they are above 25 years or by their anniversary due date falling in 2015 whichever is earlier. Only Chinese flagged vessels are given exemption from this rule to operate in Chinese waters.

⁹⁸ Entry into force on 21st October 2003

⁹⁹ MARPOL, reg. 13G (5)

¹⁰⁰ Given in MEPC/ CIR.440, dated 5th April 2005, IMO Ref. T5/1.01, available at http://www.imo.org/blast/blastDataHelper.asp?data_id=11946&filename=440.pdf, last accessed in December 2013

¹⁰¹ MARPOL, reg. 13G (4)

¹⁰² *Id.*, Regulation 13G (7)

Issue of Disparity in the Phase out Schedule Practiced by State Parties

Under the MARPOL scheme, the flag states may extend the phase out period until 2015 or on the vessel attaining 25 years of age, whichever is earlier but the port state may also deny access in that case. As of now, the waters of the United States and the European Union are devoid of the threat from risky vessels. The acceleration of unilateral phasing out movement in the United States under the OPA, 1990 and in the European Union by means of more recent directives¹⁰³ have made unseaworthy vessels to sail in other parts of the globe, where their life is extended up to 2015. The accelerated phasing out movement of ships of the U.S.A and European Union find their way to the scrapping yards of South Asia thereby raising severe environmental threat to the coastal waters¹⁰⁴. Hence, MARPOL and SOLAS amendments of design and construction standards have produced more harm to developing countries like India. Mostly, tankers operating in Indian waters are still single hulled complying with minimum international requirements so as to operate under low costs and by hoodwinking the port administrative surveillance. India is not having a specific legislation covering the topic as OPA in the United States or the EU Regulations in the Europe. As a result, the phasing out of old tankers takes place leisurely, through basic engineering circulars issued by the Director General of Shipping in India. When countries around the world are framing policy decisions and implement those at the international level through stringent legislations and strong political will, it is quite astonishing and

¹⁰³ The EC reg. 2172/2004 (2005) and, reg. EC 457/2007, (2007) for amending regulation No. 41/2002 on the accelerated phasing-in of double-hull or equivalent design requirements for single-hull oil tankers

¹⁰⁴ The European Commission, Oil Tanker Phase Out and the Ship Scrapping Industry: A study on the implications of the accelerated phase out scheme of single hull tankers proposed by the EU for the world ship scrapping and recycling industry, final report (2004)

agonizing that India's major legislation doesn't have sound provisions to ensure physical sea worthiness of vessels operating in the ports.

Controlling the Human Error

Human error is one among the major causes of vessel accidents. Some of the worst shipping casualties such as the *Herald of Free Enterprise* and *Exxon Valdez* were the results of human errors¹⁰⁵. Hence, competency of the crew is an important aspect in ensuring safe navigation in ports. It is also an important aspect of seaworthiness. Earlier attempts made by international law towards this could be seen in SOLAS¹⁰⁶ and the ILO Convention¹⁰⁷. Both these laws were very general and abstract on providing specifications of the crew competency on vessels. The UNCLOS gives a general description on crew competency¹⁰⁸. Admitting the fact that human error is an important cause for vessel accidents and there is a need for specific international prescription to ensure crew competency, the International Convention on Seafarers' Training, Certification and Watch keeping, 1978¹⁰⁹ was adopted under the sponsorship of IMO. The major amendment to the convention was made in 1995; thereby the technical annexures were divided into six chapters, and introduced a Seafarers'

¹⁰⁵ *Supra* n.2.

¹⁰⁶ The SOLAS 1974, ch.V, reg. 13 provides that all ships should be 'sufficiently and efficiently manned.'

¹⁰⁷ The Convention Concerning Minimum Standards in Merchant Ships, 1976, art.2 (e) provides that the Contracting State must 'ensure that seafarers employed on ships registered in its territory are properly qualified or trained for the duties for which they are engaged.'

¹⁰⁸ UNCLOS III, art. 94(4)(b) reads, "Such measures shall include those necessary to ensure that each ship is in the charge of a master and officers who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the crew is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship."

¹⁰⁹ Herein after to be referred to as the STCW, 1978

Training, Certification and Watch keeping Code¹¹⁰. The STCW imposes a mandatory duty on state parties to communicate to the IMO about measures adopted to implement the convention including, administration measures, such as education and training courses, and certification procedures¹¹¹. The information will be reviewed by competent persons and may be passed on to the Secretary General who may give it to the Maritime Safety Committee¹¹². Based on this information a ‘white list’ is prepared and published by the IMO. This list specifies the flag states who have implemented the 1995 Amendment. This step is considered to be an innovative pressure tactics adopted by the international community for the implementation of the convention¹¹³. Thus, ships not getting into the ‘whitelist’ may be repeatedly targeted by the port state control officers. A flag state may not accept the crew with certificates issued by non-whitelist countries on its ships. The STCW 1995, the STCW Code and Manila amendments 2010 thereto provides for watch keeping standards by seafarers at ports.

The convention aims to set “mandatory standards of competence and other mandatory provisions necessary to ensure that all seafarers are properly educated and trained, adequately experienced, skilled and competent to perform their duties in a manner which provides for the safety of life, property and security at sea and the protection of the marine environment”¹¹⁴. The code

¹¹⁰ Herein after to be referred to as the STCW code. Part A of the STCW Code is compulsory and prescribes minimum standards of competence required for seagoing personnel enlisted in a series of tables. Part B is a recommended guidance intended to help Parties implement the Convention

¹¹¹ The STCW code, 1995, s. A - I/7 provide guidance to administrations as to what information has to be submitted to the IMO

¹¹² The STCW1995, Part A, Ch.I, s. A-I/7, para. 5

¹¹³ P. Boisson, *Safety at Sea: Policies, Regulation and International Law*, Bureau Veritas, Paris (1999) p. 443

¹¹⁴ The STCW 78, annex IV

identifies responsibilities of management, operational and support levels to minimize pollution risks and ensure the safety in navigation, cargo handling and stowage, controlling the operations of the ship and care for persons on board, marine engineering, electrical, electronic and control engineering, maintenance and repair and radio communications¹¹⁵. The rules incorporate the general duty on “the masters, chief engineers and crew to be aware of the serious effects of accidental or operational pollution of marine environment and shall take all possible precautions to prevent such pollution, particularly within the framework of international and port regulations”¹¹⁶. The STCW 1995 details on the watch keeping standards in ports on deck, engineering and radio watch, in accordance with the specific port regulations¹¹⁷.

In order to eliminate human error, there should be sufficient number of competent crew on board. In *Burnard & Alger, Ltd. v. Player & Co.*¹¹⁸, the vessel met with bad weather which led to the hatchway being uncovered and the cargo being damaged. The cargo owners claimed that the vessel was not seaworthy due to insufficient manning and non-attention to adequate tightening of the wedges which held the battens holding the tarpaulin in place over the hatches of the ship. The court found that the vessel was unseaworthy due to both causes and that the absence of one of the ship mates made a difference which led to such a result.

In *Hong Kong Fir Shipping Company, Ltd. v. Kawasaki Kisen Kaisha, Ltd.*¹¹⁹, the court found that insufficient and incompetent engine crew member had made the vessel unseaworthy.

¹¹⁵ *Id.*, Ch. VIII, rules 40-41

¹¹⁶ The STCW, 1995, Ch. VIII, rule. 12

¹¹⁷ *Id.*, Ch. VIII/2

¹¹⁸ (1928) 31 Lloyd’s Law Reports 281, at p. 248

¹¹⁹ [1961]1 Lloyd’s Law Reports 159

The competency of master and chief engineer is of paramount importance and it is the duty of carrier to appoint persons of competency and due diligence to these posts. “A competent crew means that the staffs are familiar with the vessel and its equipment and able to deal with any problem that may arise during the voyage”¹²⁰. Competency also requires sufficient experience¹²¹ and physical fitness on board.

In *The Farrandoc*¹²², the ship owner had engaged a chief engineer without verifying his post qualification experience in a similar type of vessel. He opened a wrong valve thereby causing a casualty that damaged the entire cargo. The court held that had there been sufficient management plan for the in-experienced crew, the mishap could have been avoided.

Similarly in *The Makedonia*¹²³, quoting the judgment in the *Moore and Another v. Lunn and Others*¹²⁴, Lord Justice Bankes observed;

“I think that the learned Judge has found, and in my opinion rightly found, that she was not seaworthy in that respect, and for the reason that the captain and the chief engineer, at any rate, from the time the vessel arrived in Mobile in the previous September, had both of them been what I may call habitual drunkards”,

In *Papera Traders Co. Ltd. and Others v. Hyundai Merchant Marine Co. Ltd. and Another*, (“*The Eurasian Dream*”)¹²⁵ and in the *Standard Oil*

¹²⁰ *Manifest Shipping & Co. Ltd. v. Uni-Polaris Insurance Co. Ltd. and la Reunion Europeene, (The Star Sea)* (1997) 1 Lloyd’s Law Reports 360

¹²¹ Roger White, “*The Human Factor in Unseaworthiness Claims*”, Lloyd’s Maritime and Commercial Law Quarterly, p. 24 (1996)

¹²² [1967] 1 Lloyd’s Law Reports 232

¹²³ [1962] 1 Lloyd’s Law Reports 316, at p. 336

¹²⁴ (1923) 15 Lloyd’s Law Reports 155, at p.156

¹²⁵ [2002] 1 Lloyd’s Law Reports 719

*Company v. Clan Line Steamers*¹²⁶, the courts had held that sufficient information about the vessel is most important to manage it. Hence, if the carrier has not given complete information about the vessel to the master or chief engineer, the same would render the vessel unseaworthy. It is noteworthy that admiralty decisions are stressing on every minute aspect for safer shipping.

Considering the fact that two third of the seafarers in world fleet are from Asian countries, like India and Philippines and the inadequacy of training institutes in these countries it is important that the government take necessary steps to implement STCW 2010 in India. The STCW 95 is implemented in India under the Merchant Shipping (Standards of Training Certification and Watch keeping for Seafarers) Rules, 1998¹²⁷. The D.G. Shipping by means of notification had incorporated STCW 2010 provisions mandatory for Indian crew¹²⁸. Accordingly, Indian seafarers have to undergo the Ship Security Officer Course¹²⁹ and the Security Training for the Seafarers with Designated Security Duties¹³⁰ approved by the D.G. Shipping and conducted in various maritime training institutes. By means of new notifications, the grace period was allotted to officers until 1st January 2014¹³¹. These courses are made mandatory by the D.G. Shipping from 2003 onwards and the new STCW 2010 requirements would definitely enhance crew competency.

The system basically works sound under enhanced flag state implementation, effective port state control and willingness of the shipping companies to perform their responsibilities under the convention. The STCW 2010 stresses on skill based rather than knowledge based training for the sea farers.

¹²⁶ (1924) A.C. 100, at pp. 120-12

¹²⁷ The Merchant Shipping Act, 1958, ss. 87, 98, 457 and 458

¹²⁸ The STCW Training Circular No. 5 of 2011

¹²⁹ Herein after to be referred to as the SSO course

¹³⁰ Herein after to be referred to as the STSDSD Course

¹³¹ STCW Training Circular No. 20 of 2013

Many of the advanced countries are using simulators to train the seafarers. Even though very expensive, considering the risk involved in a major spill due to human error, the maritime institutes in India may be equipped with similar infrastructural facilities for better training of the seamen as envisaged under the convention.

Measures to Ensure Safety of Navigation

Ship routing systems and traffic separation schemes will reduce the risks of vessel accidents, especially in the dense traffic zones¹³². The practice of predetermined ship routing system had originated in 1898. TSSs introduced in Dover Strait had brought down the number of collisions considerably across the North Atlantic. Thus, the ship routing and TSSs are meant for the safety of navigation and for protecting the marine environment and adjacent coast from the probable adverse effects of dense traffic. Later on, connected provisions were incorporated in the SOLAS Convention¹³³.

“Ships’ routing systems are recommended for use by, and may be made mandatory for, all ships, certain categories of ships or ships carrying certain cargoes, when adopted and implemented in accordance with the guidelines and criteria developed by the Organization”¹³⁴. The routing should be introduced only after submitting the same to IMO for its approval and should be in accordance with its guidelines issued on the topic¹³⁵. The state parties should specify whether the routing is recommendatory or mandatory based upon considerations such as the environment, vulnerability of the area to collisions

¹³² Churchill, R. and A. Lowe, *The Law of the Sea*, Manchester University Press, Manchester, (1999), p.267; See also C. Mooradian, “Protecting ‘Sovereign Right’: The Case for Increased Coastal State Jurisdiction over Vessel-Source Pollution in the Exclusive Economic Zone”, 82*Boston University Law Review* 809 (2002)

¹³³ The SOLAS 1974, ch. V

¹³⁴ The SOLAS 1999/2000 Amendments, reg. 10(1)

¹³⁵ Guidance Note on the Preparation of Proposals on Ships’ Routing Systems and Ship Reporting Systems for Submission to the Sub-Committee on Safety of Navigation, MSC/Circ.1060, dated 6th January 2003

and stranding and previous history of vessel accidents. The 1995 Amendments made the ship routing system mandatory, subject to the control and jurisdiction of the coastal states¹³⁶. This step is indeed a bold attempt to empower the coastal and port states with more powers of scrutiny over foreign vessels.

Under the SOLAS, Vessel Traffic System¹³⁷ was made compulsory¹³⁸. This is yet another type of ship routing system to reduce the risk of accidental pollution. The same amendment had introduced deep water routing and areas to be avoided and made the manoeuvring of vessels compulsory. The convention makes it mandatory that all ships should be sufficiently manned to ensure safety of life at sea¹³⁹. The later Amendments made the compulsory establishment of voyage data recorders and automatic ship identification system¹⁴⁰.

Regulation also provides for ship board navigational systems and requirements and for navigational aids such as lighthouses, lightships, buoys and radar beacons. It also makes it obligatory to 'arrange for information relating to these aids made available to all concerned'¹⁴¹.

Routing under the COLREG 72

Originally, routing measures were provided by SOLAS 60. The COLREG 72 replaced those measures with requirements to prevent collisions and ensure safe navigation. The convention applies to all ships on the high seas and in all waters connected thereto that are navigable by sea-going vessels¹⁴². The provisions of the

¹³⁶ The STCW, 1995, reg. 8

¹³⁷ Herein after to be referred to as the VTS

¹³⁸ *Supra* n.137

¹³⁹ The SOLAS 1999/2000, amendments to Chapter V

¹⁴⁰ *Id.*, reg. 20

¹⁴¹ *Id.*, reg. 19

¹⁴² The International Regulations for Preventing Collisions at Sea, 1972, rule 1(a), herein after to be referred to as the COLREG.

convention are to control the movements of vessels in relation to other vessels in areas of poor visibility. COLREG 72¹⁴³ provides the Traffic Separation Schemes¹⁴⁴ that rule out the chances of collisions considerably¹⁴⁵.

In India, the ship routing system under SOLAS and COLREG are implemented by means of the Merchant Shipping (Prevention of collision at sea) Rules, 1977 and by the Merchant Shipping (Safety of Navigation) Rules, 1997¹⁴⁶. Accordingly, the Directorate General of Shipping has established “Safety Fairway, Recommended Routes and TSSs meeting national and international laws to regulate the movement of large number of ships or vessels in congested or restricted Indian waters including offshore development area for facilitating smooth, safe and efficient flow of commerce along the Indian Coastal line up to the EEZ”¹⁴⁷. If these guidelines are violated, the master and owner of the ship shall be liable as per the provisions of the Merchant Shipping Act, 1958 and the Indian Ports Act, 1908.

¹⁴³ Id., rule 10

¹⁴⁴ Here in after to be referred to as the TSSs

¹⁴⁵ S. Mankabady, *the International Maritime Organization Volume 2: Accidents at Sea*, Croom Helm, Kent (1987) p. 53

¹⁴⁶ The Merchant Shipping Act, 1958, s. 286 reads, “Observance of collision regulations: (1) The owner or master of every ship and the owner or tindal of every sailing vessel to which section 285 applies shall obey the collision regulations, and shall not carry or exhibit any lights or shapes or use any fog or distress signals, other than those required by the said regulations (2) If any damage to person or property arises from the non- observance by any such ship or sailing vessel of any of the collision regulations, the damage shall be deemed to have been occasioned by the wilful default of the person in charge of the ship or the sailing vessel, as the case may be, at the time unless it is shown to the satisfaction of the court that the circumstances of the case made a departure from the regulations necessary.”

¹⁴⁷ Merchant Shipping Notice No.15 of 1998, dated 16th July 2008, No. 44-NT (13)/2007

The individual Port regulations have incorporated the COLREG and SOLAS provisions for safe navigation and the port authority is responsible to implement the same within the port area. The harbour master and the manager of the traffic department are responsible to ensure safe vessel movements within the port area. The master of the ship should inform the vessel movements before entering the port through the VTS system, and co-ordinate the movements with the port authority as per the port regulations.

Mandatory Ship Reporting System

The earliest institutional efforts on mandatory ship reporting system can be traced back to the IMO Resolution of 1989¹⁴⁸. This was later replaced by the IMO Resolution of 1997¹⁴⁹. Upon reaching a designated routing system, the ships will have to report to shore authorities all information as to its name and cargo. This system helps the shore administrations to track the vessel using radar and monitor its course of voyage. Now, the technology is so advanced that there is Automatic Identification Systems¹⁵⁰, which gives proper information on the above said facts to the coastal authorities and to neighbouring vessels. AIS should be fitted on board all vessels of 300 gross tonnes or above in international voyages¹⁵¹. All cargo ships of 500 gross tonnes or above which are not in international voyages should also be equipped with the system¹⁵². Also, the

¹⁴⁸ The General Principles for Ship Reporting Systems and Ship Reporting Requirements, including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants, adopted on 19th October 1989, MEPC res. A.648 (16)

¹⁴⁹ The General Principles for Ship Reporting Systems and Ship Reporting Requirements, Including Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances And/ Or Marine Pollutants, MEPC res. A.851 (20)

¹⁵⁰ Herein after to be referred to as the AIS

¹⁵¹ The SOLAS 1974, Ch. 5, Safety of Navigation

¹⁵² *Ibid*

passenger ships, regardless of their size built on or after 1st July 2002 and all existing tankers, those constructed before 1st July 2002, not later than their first survey on safety equipment on or after 1st July 2003 should be fitted with the AIS¹⁵³.

Mandatory Ship Reporting Under MARPOL 73/78

Under MARPOL 73/78, if there occurs any incident of pollution, or threat of pollution of the marine environment, and also when salvage or assistance is required, the master of the ship has to inform the coastal states and the concerned parties about the incident without any delay¹⁵⁴. MARPOL 73/78 as amended, The Master of the ship involved in the marine casualty should inform the coastal states, without any delay, particulars of the action planned or undertaken. In addition to this, the coastal state needs to be updated with all relevant developments¹⁵⁵.

The ship's sailing plan, position report, deviation report, final report, dangerous goods report, harmful substances report, marine pollutants packaged report should be served with the coastal state¹⁵⁶.

The Indian Ship Position and Information Reporting System

India has constituted the Indian Ship Position and Information Reporting system¹⁵⁷ in order to exercise open ocean vessel management, to provide security to the vessel, weather forecast to ensure safety of navigation and to report on incidence of pollution. The D.G.Shipping's office co-ordinates INSPIRES through the Indian Naval Communication Centres of Mumbai and

¹⁵³ *Ibid*

¹⁵⁴ The MARPOL 73/78, art. V(1)

¹⁵⁵ *Id.*, Protocol I, art. II 1(a) and (b)

¹⁵⁶ *Ibid*

¹⁵⁷ Herein after to be referred to as the INSPIRES

Vizag. All Indian ships above 300 GRT and all foreign ships above 100GRT are encouraged to participate with INSPIRES.

Supplementary Ship Positioning System

India is a party to the Search and Rescue Convention, 1979. The Indian coast guard has established a supplementary ship positioning system called the INDSAR w.e.f 1st February 2003. This system is operated through the Maritime Rescue Co-ordination Centre at Mumbai. All Indian ships of 100 GRT in the Indian Search and Rescue Region¹⁵⁸ should participate in the INDSAR. All ships above 100 GRT carrying dangerous and hazardous goods are encouraged to participate in the INDSAR, irrespective of their flags. All ships above 20 years are expected to send relevant reports under the INDSAR within the ISRR.

Compulsory Pilotage in Port Area

The most dangerous part of a ship's voyage is while entering or departing from the port. Hidden navigational risks such as confined waters, unpredictable current and tides and increased traffic density require the implementation of local compulsory pilotage rules and regulations. This is most significant for the elimination of port pollution from potential maritime casualties. Marine pilots are inevitable for safe navigation in the port area. These seafarers have wide knowledge on geographical conditions of the port and high level of expertise in navigation¹⁵⁹. The marine pilot embarks on board when a ship reaches the pilot district and works with the ship's crew to safely navigate it into the port or anchorage and disembarks at the end of pilot district when the ship starts its voyage back to the next port of call.

¹⁵⁸ Herein after to be referred to as the ISRR

¹⁵⁹ A.W Parker et.al., *The Work Practices of Marine Pilots: a Review.*, 1998, See, <http://www.amsa.gov.au/SP/Review/Contents.htm>, last accessed in December 2013

In 1968, the IMO had recommended compulsory pilotage for safe navigation¹⁶⁰. The provisions of Chapter V of SOLAS, IMO Resolutions¹⁶¹ and circulars¹⁶² issued by the D.G. Shipping cover the performance standards for mechanical pilots, embarking and disembarking of pilots in very large ships, pilot transfer and boarding arrangements for pilots.

Indian Standards of Control on Vessel Movements in Ports

The Conservator is the authority to appoint persons assisting safe navigation of vessels into the port area and out of it¹⁶³. The movement of vessels above 200 GRT is prohibited within the port area unless accompanied by the pilot or harbour master or their assistants¹⁶⁴. The master or owner of the vessel will be liable for any damage or loss caused to the port environment from negligent voyage in the port area. On this aspect, the common law doctrine of vicarious liability of the master or owner of the ship sailing with or without a pilot in the port area is retained¹⁶⁵ under subsection (1) and (2).

Under the common law, pilots were originally self –employed. The pilots under pilotage associations got statutory recognition in the United Kingdom¹⁶⁶. Under the “compulsory pilotage defence”¹⁶⁷, the ship owners got exemption from loss caused in port area by negligent navigation due to the

¹⁶⁰ The MEPC res. A.159 (ES.IV), Recommendation on Port Advisory Services, 1968

¹⁶¹ The MEPC Resolutions A. 275(VIII), Recommendation standards for marine pilots hoists, 1973; A.426 (XI), Recommendations on arrangements for embarking and disembarking of pilots, 1975 ; A.667 (16) & A. 889(21), Recommendations on pilot transfer arrangements,1989

¹⁶² MSC/Circ.568/Rev.1 on required boarding arrangements for pilots, 1995

¹⁶³ The Indian Ports Act, 1908, ss. 5, 6 and 7

¹⁶⁴ *Id.*, s.31

¹⁶⁵ *Id.*, cl. 1 and 2

¹⁶⁶ The Merchant Shipping Act, 1979, s.11

¹⁶⁷ The Merchant Shipping Act, 1974, s. 633

faults of pilots. This section was repealed and their liability for negligent act by pilots was fixed by means of statutory reforms¹⁶⁸.

In India, separate pilotage rules framed under the authority of the Indian Ports Act and the Major Port Trusts Act exist in some major ports. The Cochin Port (Authorisation of Pilots) Regulations, 1964 is an example¹⁶⁹. Compulsory pilotage is mandatory within the port limits¹⁷⁰. The port will issue license to pilot who should always act under the command of the harbour master and the deputy conservator. A pilot, whenever any accident has happened to or been caused by the vessel while in his charge, should as soon as possible report the facts in writing in the approved form to the deputy conservator¹⁷¹. It shall be the duty of the pilot to report to the deputy conservator any change in the navigational marks or signals which may affect the safety of navigation¹⁷².

The Calcutta Pilotage Act, 1948 is meant to ensure safe navigation through Hooghly River which was extended as a part of Calcutta port¹⁷³. The Calcutta Port Rules 1994¹⁷⁴ provides for compulsory pilotage within the port area and movement of vessels within the port limits can be made only under the authority of harbour master, pilots or traffic manager¹⁷⁵.

For negligent navigation in the port area due to the incompetency or negligence of marine pilots, and for any instance of pollution, the port authority

¹⁶⁸ The Pilotage Act, 1913

¹⁶⁹ The Merchant Shipping Act, 1958, powers conferred under ss.24(1) and 28

¹⁷⁰ The Indian Ports Act, 1908, s.4(2)

¹⁷¹ The Cochin Port (Authorisation of Pilots) Regulations, 1964, rule.21

¹⁷² *Id*, rule.20

¹⁷³ The Indian Ports Act, 1908, s.31

¹⁷⁴ The Indian Ports Act, 1908, s.6(2)

¹⁷⁵ The Calcutta Port Rules, 1994, rule. 5

will be liable as they are the pilot service providers¹⁷⁶ and the ship owner or master would also be liable under the common law scheme.

Enforcement of the Safety Provisions of the M.S. Act and Rules

The Central government is given power to detain unseaworthy vessel and stop it from proceeding further into the sea, until it rectifies the deficiencies quoted by qualified surveyors appointed at ports¹⁷⁷.

According to state practices, the definition of seaworthiness may vary depending upon the law of the flag and the port states, the place where a maritime casualty happens, based on the cargo it carries and the deficiency for which it is being detained. The law of the sea empowers coastal states to set criteria for detention in order to protect its marine environment. The criteria set to define a ship unseaworthy may be higher than those set by the IMO in countries like the United States¹⁷⁸ and Australia.

¹⁷⁶ Herein after to be the PSPs

¹⁷⁷ The Merchant Shipping Act, 1958, s.336

¹⁷⁸ The United States Coast Guard Marine Safety Manual, ch.4, s. D, reads, "A ship is regarded as substandard if the hull, machinery, or equipment, or operational safety, is substantially below the standards required by the relevant conventions or if its crew is not in conformance with the safe manning document, owing to, inter alia:

1. The absence of required principal equipment or arrangement
2. Non-compliance of equipment or arrangement with relevant specifications
3. Substantial deterioration of the ship or its equipment
4. Insufficient operational proficiency or unfamiliarity of the crew with essential operational procedures
5. Insufficiency of manning or insufficiency of certification of seafarers
6. Noncompliance with applicable operational and/or manning standards

If these evident factors as a whole or individually make the ship unseaworthy and put at risk the ship or the life of persons on board or present an unreasonable threat

Under common law seaworthiness means physical stability of the vessel to sail into safe shores. In *Kopitoff v. Wilson*¹⁷⁹ it was held that the carrier should provide a vessel “fit to meet and undergo the perils of the sea and other incidental risks to which she might be exposed in the course of the voyage”. Tetley defines seaworthiness as “the state of a vessel in such a condition, with such equipment and manned by such a master and crew, that normally the cargo would be loaded, carried, cared for and discharged properly and safely on the contemplated voyage”¹⁸⁰. In *Actis Co. Ltd. v. The Sanko Steamship Co. Ltd.*¹⁸¹, Lord Justice Griffiths stated:

“As I understand the authorities, there are two aspects of seaworthiness. The first requires that the ship, her crew and her equipment shall be in all respects sound and able to encounter and withstand the ordinary perils of the sea during the contemplated voyage. The second requires that the ship shall be suitable to carry the contract cargo”.

Under the Indian Merchant Shipping Act 1958, a ship is considered to be ‘unseaworthy’ “when the materials of which she is made, her construction, the qualifications of the master, the number, description and qualifications of the crew including officers, the weight, description and stowage of the cargo and ballast, the condition of her hull and equipment, boilers and machinery are not such as to render her in every respect fit for the proposed voyage or service”¹⁸². Hence, as per the Indian law any ship which falls short of these standards may be detained.

of harm for the marine environment if it were allowed to proceed to sea, it should be regarded as a substandard ship.”

¹⁷⁹ (1876) 1 QBD 377, p. 380

¹⁸⁰ William Tetley, *Marine Cargo Claims, 4th Edition*, Sweet and Maxwell Publisher, 2008

¹⁸¹ *The Aquacharm*, [1982] 1 Lloyd’s Law Reports 7, p. 11

¹⁸² The Merchant Shipping Act 1958, s.334(5)

It is understood that the standards set by the Indian law is equivalent to the one set by IMO Conventions but lower than those existing in major maritime countries like the USA and the U.K. For example, the USCG may detain any ship for seaworthiness violations, if there is a risk to the ship or the life of people on board or for an unreasonable threat to marine environment. But the Indian law is vague and sets the criteria for detention as deficiencies if found, 'not to render her in every respect fit for the voyage'.

In *Leena Mathew v. The Kerala Shipping Corporation Ltd.*¹⁸³, the radars of the ship *M.V.Kairali* were found to be defective. In spite of the captain's refusal to resume the voyage, the defendants compelled him to do so. The ship encountered rough weather and caused the death of a seaman. Upon the suit for damages filed by the deceased seafarer's dependants, the Court held that under the Fatal Accidents Act, 1855, the captain of the ship was primarily liable for negligence and the owners were vicariously liable under the Act. The investigation report by the magistrate¹⁸⁴ was admitted into as evidence. The judgement establishes a duty on the ship owner and the captain of the vessel to ensure seaworthiness before the ship begins its voyage.

The supporting provisions of the Indian Ports Act, 1908 and the Merchant shipping Act, 1958 obliges the conservator of ports to detain the unseaworthy vessel and not to allow it to proceed into the sea. If there is breach of this duty, the party injured may claim under a tort. On the occurrence of accidental pollution, the captain of the ship and the owner should report it to the Maritime Rescue and Co- coordinating office on the shores, failing which action may be taken against the officer and owners.

In modern Admiralty systems, the dimensions of seaworthiness have wider amplitudes so as to ensure the safety of navigation, security of lives of people and cargo and protection of marine environment. Still, the Indian law

¹⁸³ 1988(1) KLT 212

¹⁸⁴ The Merchant Shipping Act, 1958, s.361

limits the scope of the concept to ensure 'fitness in voyage'. This definition is very vague and narrow and does not take into account the developments in international law.

The power of detention extends over Indian as well as foreign ships in Indian ports which may be sailing without valid safety certificates under various conventions¹⁸⁵. When detaining a foreign ship, it shall be deemed to be an Indian ship for all administrative actions against it and correction measures may be recommended by the surveyors, after consulting the particular consular office of the state of registration of the ship¹⁸⁶. A ship may be unsafe because of the defective condition of her hull, equipment or machinery or due to overloading or improper loading.

The detention under the M.S. Act, 1958¹⁸⁷ is administrative detention for correcting the deficiencies if it is found to be unsafe. It checks the compliance standards prescribed under various international conventions. Whether the ship is unsafe or not is to be declared by qualified surveyor and assessor of the central government. The basis for detention is for 'protection of human life'¹⁸⁸. The opinion of qualified surveyors and assessors play a big role as to the detention and release of ships in ports. As the scope of strict port state control measures would depend upon the qualifications and expertise of these persons, there is ample scope for administrative bureaucracy hampering strict enforcement actions against the law evading vessels. Ordinary prudence suggests that courts are usually reluctant in judging the correctness of the administrative decision, especially on technical issues¹⁸⁹. Thus, the law as it exists today is 'self-regulatory' and imposes a duty

¹⁸⁵ The Merchant Shipping Act 1958, s.342

¹⁸⁶ *Id*

¹⁸⁷ The Merchant Shipping Act 1958, s. 336(1).

¹⁸⁸ *Id*

¹⁸⁹ *Cochin Port Trust and Deputy Conservator v. Laxmi Cranes and Trailers (P) Ltd.*, WA. No. 1803 of 2010, dated 16.11.2010, by the High Court of Kerala

on the vessel owner, charterer and master to make it fit for voyage. It is important that the technical surveys maintain its quality from the enforcement perspective.

The efficiency of the system may depend upon the due diligence of the port administrations. Hence, the effectiveness of port state control plays a major role in ensuring compliance of international safety standards.

Conclusions

In practice, majority of ships operating in India's coastal waters does not comply with documentary seaworthiness. The international law on control of vessel safety and pollution is changing rapidly. These radical changes are implemented in countries like the USA and European Union by means of specific legislations. There are ample provisions in these legislations to empower the enforcement authorities. As a result criminalization of seafarers has become very common in major maritime countries.

For example, in the United States, there are a large number of federal, state and local laws, regulations and ordinances controlling vessel sourced accidental pollution in the port area. The USCG regulates vessel movements by means of authority vested with the captain of the port. The USCG is given wide powers under the Espionage Act, 1917 to impose criminal penalties on any crew on board if the incident affects security of the state¹⁹⁰. The USCG is given strong authority to increase vessel safety and protect marine environment in ports and harbours by means of establishing VTS control, navigational and operational control and related port safety control. Any violation would invite both civil and criminal penalties¹⁹¹. A handful of legislations like the Federal Water Pollution Control Act, 1972 delegate enforcement jurisdiction to USCG in case of major oil and

¹⁹⁰ 33 CFR 6, Protection and Security of Vessels, Harbours, and Waterfront Facilities (Espionage Act), 1917

¹⁹¹ 33 USC 1221, The Ports and Waterways Safety Act, 1972, as amended by the Port and Tanker Safety Act, 1978

hazardous substances spill. The Oil Pollution Act, 1990¹⁹² delegate surveillance duty on the Coast Guard by means of vessel traffic service systems, vessel and facility monitoring, oil spill prevention and clean up. In addition to this, each state has got specific port legislation to ensure environmental safety. The vessel should comply with federal as well as state legislations. The type of cargo to be handled in port requires the prior approval of the chief engineer of the fire department. Pilot services are voluntarily rendered but this does not evade master's liability in case of accidental pollution. The pilots operate under the control of the Coast Guard. Every commercial vessel should have someone responsible on board to take emergency action as the executive director of port may direct. Every member of the board of directors, the executive director or the port warden may inspect any vessel at any time inside the port area. When doing so, the port warden shall have the powers of police officer of the city including the power to arrest violators. After getting the approval of the executive director, the port warden shall report the incident to federal, state and municipal officials. Anyone found guilty of violating the provisions will be prosecuted for misdemeanour. Upon conviction, fine and imprisonment may be imposed. The system is effectively streamlined under the USCG, delegating definite duties on various authorities as per their respective jurisdictional regime. This is being done by intensely legislating on various issues.

The major problem of the Indian law is the poor enforcement of environmental and safety regulations in ports. The reasons are several. The far-reaching changes made in the international norms of vessel safety, navigational requirements, manning, equipment standards, response and planning in case of incidents are merely repeated *verbatim* in the rules framed under the Merchant Shipping Act, 1958 and circulars issued by the Director General of Shipping. These changes are not incorporated into the port regulations. Hence, obsolete standards on lighting, manning, crewing and piloting are found in port

¹⁹² 33 USC 2701

regulations. Most of the vessels find it easy to make a port entry as they need to comply only with these out of date specifications.

The provisions regarding safety of navigation and powers of authorities to ensure it lay scattered in a handful of legislation making it difficult to co-ordinate under a single agency. It is high time that the port environmental regulations are consolidated and up dated in accordance with the international standards. The enforcement could be made effective by clearly defining the role and hierarchy of enforcement agencies and streamlining their activities under a central agency. The powers of the ICG are described very vaguely in the Indian Coast Guard Act, 1978. It can be modified to make it the Central agency to monitor, survey, enforce and punish the offenders causing pollution in the Indian waters. At present, the Coast Guard is exercising jurisdiction beyond the port limits.

As a second line of enforcement, the port state inspections should be regular, stringent and targeted to complete the required number of inspections by port states. In the absence of strict flag state implementation, only when the PSCOs are functioning efficiently, substandard vessels could be easily tracked and detained. The port state inspections in India are below the target set under the port state control regime. The port laws being archaic, these PSCOs cannot be expected to function like those acting under regional memoranda of understanding. The enforcement agencies find it extremely difficult to track and detain unseaworthy vessels because of the lack of expertise and deficient infrastructural support from port administrations. By extending the scrutiny powers of Coast Guard over these official inspections, the international standards can be achieved to a greater extent.

The phasing out schedule for single hulls has been extended till 2015 and is likely to continue at least for a few more years. Taking advantage of this situation the ghost ships that were expelled from the western territories are brought to be dismantled at Alang. Reports show that many of the ships that are anchored in the territorial waters and seeking clearance to Alang is causing

substantial threat of being capsized during the monsoon seasons. Hence, these vessels may cause potential pollution in ports.

If maritime accidents happen, its effects on environment can be minimized by advanced legislation, proper regulation and effective litigation processes. For this, India has to set long term plan for port environmental management and a well-suited economic policy. In the long run, the ‘polluter pays principle’ along with “the anticipate and prevent strategies” alone could eliminate the risks of maritime casualties in ports.

Chapter 8

LAW ON RESPONSE SYSTEM AND LIABILITY FOR ACCIDENTAL POLLUTION

Maritime casualties are on the rise along the Indian coastal line. Total elimination of shipping accidents is impossible because the risk of natural perils of the sea is inherent in the transportation of goods. Lack of co-ordination between various authorities, willful and negligent violations of international and national safety rules, inept communication and signal systems, lack of commitment on the part of regulators and ship owners have contributed to the increase in the number of shipping casualties in the recent past. Accidents continue to occur irrespective of the technology advancements and capacity building measures to prevent it. Yet it remains a reality that the response measures and investigative and adjudicatory mechanisms remain the same as it was a hundred years ago.

A maritime casualty may result in loss of life, personal injury, loss of cargo and environmental degradation. In that case, only an effective and quick response system can minimize its impact on port environment. Whether this response system is in accordance with the IMO vision and comparable with similar systems world- wide is a significant question. When there is pollution in ports as a result of a maritime casualty, who should be held responsible, how to fix the liability and the quantum of compensation are some of the vital issues that the law should be able to address.

Controlling Pollution in Ports through Proper Salvage Operations

With the onset of monsoon maritime casualties are common along the Indian coastal line and so also, the wreck removal and salvage operations. There is always potential pollution risk associated with wreck, collisions and other forms of maritime casualties to the port environment irrespective of the

place of occurrence. The high tides may always carry the pollutants to the port area. During casualties, cargo handling poses serious challenges and may be the most complex and lengthy part of the salvage operations. The major considerations could be the risk of pollution from cargo and its potential hazard and value. With almost over 450 abandoned ship wrecks lying across the Indian sea bed, it is not possible to say whether safe navigation is possible along the Indian coastal line¹.

Pollution in ports can be reduced considerably through proper salvage operations. A successful salvage intervention results in safe towing, repair and returning of the vessel to service. When successful salvage operations seem to be expensive and complex, the vessel will be declared as a total loss and the consequent costs for removing it would fall upon liability insurers. The coastal state plays a huge role in wreck removal and salvage operations. Political interferences also have vital impact on salvage activities. Multiple tiers of governmental and other agencies have a claim on their legitimate role, putting into forth, their perspectives, which can influence operational and commercial decisions on wreck removal and salvage.

When a maritime casualty such as collision occurs, “preventive response through salvage” is widely accepted as a successful method in combating port pollution. A good salvage operation may in either cases of giving or denying access to a ship in distress may help to reduce the risk of accidental port pollution. Often, clean-up after the incident may not be 100% successful but a salvage operation may keep the oil within the ship itself. Under the Lloyd’s Form salvage contract, the Salvor is bound to use their “best practices” to prevent or reduce the damage to the marine environment.

¹ Economic Times Bureau, “India’s Long Shoreline is at Risk of Serious Ecological Disaster”, reported in the Economic Times, dated 26th August 2013.

Under the Salvage Convention², the owner and master of the vessel or the owner of the property in danger may give all assistance to the salvor to reduce the damage caused to marine environment resulting from the maritime casualty³. The rights of the coastal state are also being recognized under the convention to take every step in minimizing pollution risk to its coastal line during salvage operations, inclusive of giving directions to the salvors⁴. The convention stresses on co-operation among state parties thereby rendering all assistance to salvors for the prevention of marine pollution⁵.

Under the Indian law, wreck and salvage are dealt under of the Merchant Shipping Act 1958⁶. Accordingly, the salvor is entitled to claim proportionate to the services rendered in saving the cargo and life of persons⁷. Under the Act⁸, the salvage operations inside the port area should be authorized by the port authority and will not 'entitle any person to salvage in respect of any property recovered by creeping or sweeping in contravention of the Indian Ports Act, 1908'⁹.

Wrecks in Port Area

If a wreck or stranding of vessel happens in the port area, enormous amount of oil and hazardous substances may pollute the waters. This occurred during the gulf war, Iran- Iraq war and the U.S attack on Iraq. Iraqi sea ports, which were busy gateways to international commerce, had to be closed down because of pollution from sunken vessels. The same scenario existed during the

² The International Convention on Salvage, 1989

³ *Id.*,³ ch. II, art.8 (2)(b)

⁴ *Id.*, art.9

⁵ *Id.*, art.11

⁶ The Merchant Shipping Act, 1958, Part XIII

⁷ *Id.*, s.402

⁸ *Id.*, s. 403(b)

⁹ The Indian ports Act, 1908, s.29

World War II. Therefore, the response and contingency planning should be good enough to integrate salvage packages on wreck removal.

The United States Law on Wreck Removal

In the United States, the Abandoned Ship Wrecks Act, 1988¹⁰ made the owners or operators responsible to mark a sunken vessel with a buoy or beacon during day time and lighted lantern at night and to ‘diligently’ commence with immediate removal of the wreck. Failure of such removal will be considered as abandonment and the United States Army Corps Engineers on behalf of the Federal government may remove, destroy or sell the wreck and the costs could be reimbursed from the owner or operator after giving 30 days’ notice¹¹. During emergency situations 24 hour notice may be issued by the United States Army Corps Engineers. The proceedings under the Wreck Act will be initiated only when it happens in navigable waters. Under the OPA Scheme, the owner of the vessel will have to bear the cost for raising or removing the wreck. The provisions of the Abandoned Barge Act, 1992¹² may be invoked if the wreck is an abandoned barge located in navigable waters within 3 miles the coasts of the United States.

The Oil Pollution Act, 1990 governs the removal of a sunken wreck if it is causing or potentially polluting the U.S waters. In case of substantial threat to public health, the Federal agency will take necessary action to remove it. Otherwise the owner or operator will be given notice to remove the wreck. If the owner or operator refuses to remove the wreck, the United States Coast Guard will remove it and the expenses will be met from a fund created for the purpose¹³. The fund is managed and operated by an independent agency.

¹⁰ 33 U.S.C §§409

¹¹ 33 U.S.C §§414

¹² 48 U.S.C §§4701

¹³ The Oil Spill Liability Trust Fund

In case of hazardous substances removal, the proceedings under the Environmental Response, Compensation and Liability Act, 1980 will be initiated. Hence, the system is adequate to fix liability on the owner or operator of the vessel. By means of latest changes, the vessels are given port entry only when the ship carries a ship pollution response plan on board. In addition, the owner or master will have to make arrangements with an Oil Spill Response Organization classified by the United State Coast Guard. This step is mandatory under the OPA 90 to eliminate the risks of worst cases of oil spill on an emergency. These regulations were made mandatory under OPA 90 in response to the *Exxon Valdez* spill¹⁴.

Under the Wreck removal convention, 2007¹⁵, a wreck means, stranding or sinking of a vessel, any part thereof, any object that is lost from such a ship or its part and includes a ship that is reasonably about to sink or strand, where no rescue operations have started for it. The OPA incorporates this definition thus making the owner and operator liable for any potentially polluting wreck causing serious obstructions to navigation. The convention provides for locating, identifying and reporting wrecks to coastal states, warnings to seafarers and coastal state's duty to locate and mark wrecks. The convention sets criteria for determining potential polluting wrecks, damage likely to result from wrecks, ship owner's obligation to remove wrecks and circumstances warranting intervention by the state. The coastal states may extend their powers up to the Exclusive Economic Zone for removal of wrecks. It also provides for financial liabilities of the ship owner in marking and removing the wreck.

¹⁴ See, the United States Vessel Response Plans, available at <https://homeport.uscg.mil/mycg/portal/ep/channelView.do?channelId=-30095> & channel Page=%252Fep%252Fchannel%252Fdefault.jsp&pageTypeId=13489, last visited in December 2013

¹⁵ The Nairobi International Convention on Removal of Wrecks, 2007

As such the United States has the most refined wreck removal regime. In a survey conducted by the IMO, in connection with the drafting of wreck removal convention, around 30 domestic laws were analyzed. There were a number of countries with limited wreck removal regime. The survey identified that at least some features were common in most of the domestic laws. They defined wreck and when wreck constituted a hazard. The onus on the owner to remove the wreck was established. Failure of such an onus, the state would be responsible to remove it and the state could reimburse the costs from the owner or operator. Failure to comply with wreck laws would make the owner liable under civil and criminal laws.

The Indian Law on Wreck Removal

As per the provisions of the Merchant Shipping Act 1958, a wreck may happen not only in territorial waters or areas beyond that but also in the tidal waters or on the shores or the coasts¹⁶. Yet, a harbour or port is exempted from the place of occurrence of wreck under the Act¹⁷. Hence, if the wreck, stranding or sinking of the ship happens in the port, the provisions of the Indian Port Act, 1908 and the powers of the deputy conservator in preventing pollution will apply.

Under the Indian law, the abandonment of the vessel beyond any hope or intention is the criteria for treating it as a wreck¹⁸. Hence, the vessel about to be stranded included under the Convention and OPA Scheme does not find application in India. The potentially polluting wreck is not a wreck as per the Indian law. Hence, if a vessel sinks or capsizes in the port area, unless the owner abandons it, the laws on wreck may not be applicable to it.

¹⁶ The Merchant Shipping Act, 1958, s. 391

¹⁷ *Id.*, s. 2(49) reads, “‘Tidal waters’ has been defined in the Act to mean any part of the sea and any part of a river within ebb and flow of the tide at ordinary spring tides and not being a harbour”.

¹⁸ The Merchant Shipping Act, 1958, s. 2(55)

Wrecks include goods and vessels¹⁹. It may happen in sea, tidal waters, shores or in the coast.

Under the Indian Ports Act, 1908, if a ship is wrecked, stranded or sunk within the port limits, the Conservator of the Ports or in the absence of such an office, the Harbour master may give notice to the owner of the vessel 'to raise, remove or destroy the vessel within such period as may be specified in the notice and to furnish such adequate security to the satisfaction of the conservator to ensure that the vessel shall be raised, removed or destroyed within the said period'²⁰. If the owner does not comply and act upon the notice, the conservator may raise, remove or destroy the property and claim the compensation from the owner²¹. Mostly, the salvage activity will be done by private salvors in agreement with the Port Trust. Within the port limits, the capacity of the party to carry out salvage, the methods used to raise or remove or destroy the vessel is subjected to the expert opinion of the deputy conservator of the port. Normally, the court will not interfere with these technical decisions²².

For example, on 16th June 2013, *M.T. Pratibha Tapi*, which was anchored along the Mumbai coast drifted towards the Maldha Island and capsized, thereby raising considerable public outrage against the authority delay in initiating the response proceedings. The vessel was under financial distress and was allowed to operate with lesser number of required crew during the pre-monsoon season. The D.G. Shipping requested the shipping corporation of India to send emergency towage vessel to tow the tanker off the port area. The ship had 2000 tonnes of fuel oil on board.

Two years back in June 2011, *M.V. Wisdom*, a vessel of 9000 tons of heavy fuel oil had run aground at the Juhu beach in Mumbai. By a joined effort by the

¹⁹ *Id.*, s. 2(58)

²⁰ The Indian Ports Act, 1908, s. 14 (1)

²¹ *Id.*, cl. (2), (3) & (4)

²² *Cochin Port Trust & the Deputy Conservator, Cochin Port Trust v. Laxmi Cranes and Ors.*, W.A.No. 1803 of 2010, of the High Court of Kerala, decided on 16th November, 2010.

Indian navy, coast guard and international salvor, the vessel was finally towed off the port area²³.

During the collision between *MSC Chitra* and *M.V. Khalija*, salvage operations were delayed because the equipments for salvage could not be brought inside the port area due to complex customs formalities²⁴.

When such incidents like collisions and grounding of vessels happen and when salvage operations are not possible, it may be treated as wreck under the international regime. But as under the Indian law it is not possible. Then how could the receiver intervene and raise, remove or clear the obstruction causing substantial pollution threats to the port environment and public health? All powers vested with the receiver to ensure safety of navigation and control of pollution becomes a myth only because of the deficiency in defining 'wreck' under the Indian law.

Mostly the ships capsized in the Indian waters are reported to have been registered either under the Indian registry or the registry of Flags of convenience countries. Once, abandoned, the owners may not be claiming the wreck. This makes the enforcement of the compensation regime extremely burdensome. If India wants to strictly enforce the wreck and salvage laws, clear legislative provisions on ship registration should be implemented.

Preparedness and Response Capacities of the Port Administrations

The OPRC Convention²⁵ and the OPRC-HNS²⁶ Protocol are the international legislations on the topic. The OPRC pertains to preparedness and

²³ See, <http://www.ndtv.com/article/cities/merchant-vessel-drifts-near-sea-link-in-mumbai-111683>, last accessed in June 2013

²⁴ Recommendations of the Committee to examine the preliminary investigation report on the collision between *MSC Chitra* and *M.V.Khalija*, available at <http://nsb.nic.in/upload/uploadfiles/files/analysis%20of%20MSC%20Chitra%20-%20Khalija%203%20Collision.pdf>, last visited in December 2013

²⁵ The Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC 90) was adopted by IMO in November 1990, entered into force in May 1995

response capabilities of port administrations in handling oil pollution incidents. The Convention gives details of the designing of oil pollution emergency plans by the ship operators, oil pollution reporting procedures and the actions to be taken by port administrations on receipt of such a report; the instituting of national and regional systems for preparedness and response; international cooperation in pollution response; research and development; and technical cooperation. The Convention is intended principally to help developing countries to prepare for and respond to major oil pollution incidents.

As per the requirements under the OPRC- HNS Protocol, ship operators, port administrations and any other facility handling HNS are required to have emergency plans for dealing with an HNS incident. The “Shipboard Marine Pollution Emergency Plan”, as required under the MARPOL, should also comply with the “Pollution Incident Emergency Plan” under the OPRC-HNS Protocol. Those administrations who are not a party to this convention should also co-operate to give confirmation of specific requirements under it.

Planning, Preparedness and Response to Oil Spills

The Coast Guard Act, 1978²⁷, empowers the Coast Guard of India, to take measures to ensure the security of maritime zones of India, which includes control of marine pollution. The Director General of Coast Guard is the enforcement authority under the Act. He acts under the supervision of the central government. The coast guard has got the responsibility to prevent and protect the marine environment of the country and ensure safety in territorial waters²⁸.

India is a party to the Oil Pollution Preparedness, Response and Cooperation Convention, 1990 and is under a duty to establish measures for

²⁶ The Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000 (OPRC-HNS Protocol), Entered into force on 14th June 2007

²⁷ The Coast Guard Act, 1978, ch. II, s.4

²⁸ *Id.*, Section 14 (1) and (2) (a)- (f)

dealing with pollution incidents, either nationally or in co-operation with other countries. Major cargo handled by Indian ports is oil and therefore, the coast guard has developed a National Oil spill Contingency Plan²⁹ to mitigate the effects of oil pollution casualties, in response to the call of OPRC³⁰. “Under this plan, the Direct General of Indian Coast Guard is the central coordinating authority for enforcing NOS-DCP. The President of India has further strengthened the plan by issuing a directive to the coast guard to enforce NOS-DCP by an amendment to the Union of India Business Rules, 1961.

Under the Allocation of Business Rules, 1961, functional responsibilities of the Indian coast guard include “surveillance of maritime zones against oil spills, combating oil spills in various maritime zones except in the waters of major ports, central coordinating agency for combating of oil pollution in the coastal and marine environment of various maritime zones of the country, implementation of national contingency plan for oil spill disaster, controlling activities in various maritime zones except within the limits major ports which includes inspection of oil record books and detentions of violators of the section 356 g (1) and of the Merchant Shipping Act, 1958³¹ and checking of vessels for carrying necessary Insurance certificates against oil pollution damage”³².

²⁹ Herein after to be referred to as the NOS-DCP

³⁰ Under the directions of Government of India, approved by the Committee of Secretaries on 4th November 1993 and from 2003 under the purview of National Disaster Management Authority, Marine Oil spill Management in India, Ministry of Home Affairs

³¹ The Merchant Shipping Act, 1958, s.356 g (1)

³² Contingency Plan of Indian Coast Guard, see, at <http://www.indiancoastguard.nic.in/Indiancoastguard/NOSDCP/Contingency%20Plan/DHQ%202.pdf>, last accessed in June 2013

Within the port area, the port trust has got functional jurisdiction to enforce the plan³³. The coast guard is the central coordinating agency for the implementation of the plan. The Ministry of Shipping acts through the port trust in discharging its functional responsibility to “prevent and control of pollution arising from ships all over the sea including the major ports areas, enactment and administration of legalization related to prevention, control and combating of pollution arising from ships. It functions through ports authorities within port limits regarding the inspection of oil record books, apprehending of violators of anti- pollution provisions mentioned under the Merchant Shipping Act, 1958 and monitoring and combating of oil pollution in the port areas”³⁴.

The Ministry of Environment and Forests is the nodal agency to conserve “environment and ecology, including environment in coastal waters, in mangroves, coral reef but excluding marine environment on the high seas”³⁵. It has functional responsibilities relating to the “enactment of legislation for prevention and control of marine pollution from land and sea based source, prevention and control of marine pollution at source, on land or the sea, monitoring of pollution up to the shore, cleaning of beaches affected by oil pollution through coastal states and union territories”³⁶.

Hence, multiple numbers of ministries and departments are given concurrent jurisdiction to combat accidental spills in ports. The primary responsibility is with the port administration but only a co-ordinated effort may help in mitigating the disastrous effects of accidental pollution. In the present

³³ Union of India, the Allocation of Business Rules 1961

³⁴ *Supra* n.30, functional responsibility of the Ministry of Shipping

³⁵ *Supra* n. 30 at Appendix A, Functional Responsibilities allocated to Ministries / Department as per Decision Taken at a Meeting of the Committee of Secretaries on 04 Nov 93

³⁶ *Ibid*

political situation prevailing in India, it will be extremely difficult to co-ordinate these functionaries. This can make the response system very slow and inefficient.

All ports in India and oil handling agencies are to establish this Contingency Plan and Tier- I Oil Spill response³⁷. Beach and shoreline clean ups are allocated to respective port administrations and State Pollution Control Boards. The Coast Guard would take up the operation if the spill were beyond the capability of the stakeholders concerned or for regions where the facilities have not been well developed by initiating the Tier II and Tier III response systems.

The maritime zones of India are divided into four Coast Guard Zones: the North West, West, East and Andaman and Nicobar, which are further divided into 11 Coast Guard districts. In each district, the Regional Commanders are responsible for combating Oil Spills in their respective areas of responsibility and have Regional Oil Spill Disaster Contingency Plan. There are three pollution response team located in Chennai, Mumbai and Port Blair with qualified personnel and well-stocked inventory of response equipment³⁸. Each region has got specific contingency plans to deal with spills in their area.

The response policy is mechanical recovery. The Coast Guard has issued guidelines for the use of dispersants, which require its prior approval. The recovered oil is put to Bioremediation and *in situ* burning arrangements. The recovered oil has to be put in temporary pits until it can be safely transferred to the reception facilities. For the successful implementation of the plan, the recovered oil should be received at the port reception facilities. As the port reception facilities in India are very limited that the recovered oil remains

³⁷ The Coast Guard NOS-DCP. Also See the Directives of the Ministry of Shipping and Department of Oil Industry Safety Directorate of the Ministry of Petroleum and Natural Gas, available at http://www.itopf.com/_assets/country/india.pdf, last accessed in June 2013

³⁸ See, www.indiancoastguard.nic.in/oilpollution last accessed in June 2013

in the pits and may subsequently pollute the shores³⁹. For example, in Cochin Port, five private firms jointly operate MARPOL Annex I Oil reception facility and the total capacity is around 45,500 KL/annum⁴⁰. Annex II facilities are totally absent. The port argues that there is limited transportation of noxious liquid substances within its limits. Similarly, private contractors arrange for sewage and garbage reception from vessels for a limited capacity. When the existing reception facility is not adequate for receiving oil from routine vessel operations, how could it receive oil due to major spills is a significant question.

The Tier I oil response system may not be adequate to eliminate the risk of accidental chemical pollution and pollution from hazardous cargoes. When *MSC Chitra* collided near the Mumbai port, around 800 tonnes of IFO 380 and 300 containers carrying dangerous goods spilled into the ocean. The Indian Coast Guard started the response system using oil dispersants but the oil subsequently stranded along the shoreline of Mumbai destroying mangroves and mudflats. International assistance was called upon to mitigate this. Hence, Tier I response system is inadequate when responding to a dangerous spill and there is urgency in equipping the Coast Guard and nodal agencies under it with advanced response systems.

India has not ratified the OPRC-HNS protocol. There is an urgent necessity to legislate on the topic and to implement a contingency plan for chemical spills. India witnessed another chemical spill in the year 2006 when the LPG Tanker *Kew Bridge* laden with 8798 tonnes of Butane gas ran aground near the Finolex terminal in Ratnagiri, Maharashtra. The terminal had to be closed down, surrounding villages had to be evacuated and a fishing ban was imposed.

³⁹ See, Cochin Port, Facilities at CPT, at [http://www.cochinport.com/index.php?opt=facilities &sub=52&tab=5](http://www.cochinport.com/index.php?opt=facilities&sub=52&tab=5), last accessed in June 2013

⁴⁰ Circular No.02/MMPC/Reception/2008, issued by the Office of Deputy Conservator Cochin-682009, dated 20th November 2008 under authorization from the Central and State Pollution Control Boards

In salvage operations and wreck removal, India follows a government-alone approach. The response operations are carried out under the coordination of the Indian Coast Guard and subsequently maritime claims are invoked against the owner or master of the ship. In this regard, the United States and the People's Republic of China have followed an innovative enforcement measure. Accordingly, every vessel in a Chinese port should have a pollution response contract with a government recognized Ship Pollution Response Organization⁴¹. The Maritime Safety Agency of China recognizes a few agencies and have conferred them valid Ship Pollution Response Unit Qualification Certificate for clean-up response⁴². In the absence of the Pollution Response Contract, the ship will be denied port entry or if it is within the port area, clearance to next port of call will not be allowed⁴³. These organizations are approved to contract with the owner or operator for pollution response for either level 1, 2, 3 or 4 as per the Maritime Safety Agency directions.

It is suggested that Indian law should also incorporate mandatory provisions for ship pollution response contracts authorized by the port authority as a port entry requirement. In India certain ports are providing Tier II response systems by making private arrangements with oil spill response agencies. For example, the Mumbai Port Trust had invited tenders to set up Oil Spill Response facilities in its ports by appointing private agencies on contract for five years⁴⁴. This agency will set up a 24x7 Oil Spill Response Center, at the

⁴¹ Regulations of the People's Republic of China on the Prevention and Control of Marine Pollution from Ships, 2010. Also *See*, the Detailed Rules of the Maritime Safety Authority of the PRC on the implementation of the Administration Regime of Agreement for Ship Pollution Response, art.10

⁴² *Ibid*

⁴³ *Ibid*

⁴⁴ *See*, http://articles.timesofindia.indiatimes.com/2012-05-30/mumbai/31899141_1_mbpt-Mumbai-port-trust-facility, last accessed in June 2013

Marine Oil Terminal on Jawahar Dweep, an island to the south of Elephanta Islands. The centre will be monitored by trained personnel and specialists and will be responsible for oil spill incidents including collisions and grounding of vessels, in Mumbai and Jawaharlal Nehru port limits. Yet, these efforts are in no way comparable with those existing in the United States, Canada or the UK. If the ship pollution response contracts are made mandatory for the port entry, it would be highly effective in eliminating the procedural formalities for salvage operations and the response measures could be initiated at once. Also, the response agencies should be equipped well to handle major maritime casualties. India needs to enter into agreement with advanced countries for technology sharing and implement it at all major ports. Port authorities should have sufficient man power for supervising and maintaining navigational and safety aids.

The South Asian Co-Operative Environment Programme

United Nations Environment Programme has a regional seas programme for the South Asian Seas Region including India. The South Asia Co-operative Environment Programme⁴⁵ and the IMO have jointly funded the development of South Asian Region Oil Spill Contingency Plan. The plan was submitted to a high level meeting which approved it in December 2000, prior to formal acceptance by the respective governments. The plan envisages mutual aid and co-operation among the participant countries for any contingency which may affect all or some of them.

The Law of Liability for Carriage of Oil

The International Convention on Civil Liability for Oil Pollution Damage, 1969⁴⁶ imposes strict liability on tanker owners for causing pollution damage to the coastal line of any member state. An important deficiency of this

⁴⁵ Herein after to be referred to as the SACEP

⁴⁶ Adopted by the IMO on 29th November 1969, replaced by the Protocol in 1992, here in after to be referred to as the CLC

convention was that it was applicable only to all sea going vessels carrying oil in bulk as cargo. This exempted owners of other ships from its purview. To cure this deficiency the Protocol of 1992 was adopted which covered 'spills from sea-going vessels constructed or adapted to carry oil in bulk as cargo'. In this way the convention was extended to both laden and unladen tankers, including spills of bunker oil from such ships. In spite of the remedies available under the CLC, the 1992 Protocol provides for additional compensation to the victims of oil pollution damage. The Law on civil liability for oil pollution damage is provided under Part X B of the Merchant Shipping Act, 1958. The Merchant Shipping Act, 2002 amended these provisions and introduced Part X C for international oil pollution compensation fund.

The Act defines a 'ship' as any sea going vessel and sea borne craft of any type whatsoever constructed or adapted for the carriage of oil in bulk as cargo⁴⁷. This definition is verbatim adopted from the parent convention. The clear meaning is that this definition includes only 'tankers', and does not include vessels of any other category including container ships. The deficiency of this provision is that it exempts from its purview spilling of oil used as fuel on board by ships like container carriers. These bunker fuels are capable of causing disastrous oil spills and the Indian law has no control for spills caused by ships other than tankers.

The same section again states that oil includes "...oil whether carried on board a ship as cargo or in the bunker of such ship." This would mean that only ships adapted for carriage of oil in bulk as cargo and other ships that use oil or bunker as fuel on board and not as cargo would not fall within the ambit of the Act. Thus, in practice, the provisions are not adequate to include ships other than tankers for fixing the civil liability for oil pollution damage.

Under the MSA, pollution damage include, "...loss or damage caused outside the ship by contamination resulting from the escape or discharge of oil

⁴⁷ The Merchant Shipping Act, 2002, s.352H (h)

from the ship, wherever such escape or discharge may occur, provided that compensation for impairment of the environment other than losses of profit from such impairment shall be limited to costs of reasonable measures of restoration actually undertaken or to be undertaken; and the costs of preventive measures and further loss or damage caused by preventive measures⁴⁸. This would mean that pollution damage is applicable only in cases where there is an actual discharge and not in cases where there is potential pollution risk. This provision is not in tune with the international law and domestic laws in advanced maritime countries. Pollution damage could be given when preventive measures are taken by the authorities and to potential victims of the consequences of such measures. The Act provides only for the costs incurred in restoration of environmental damage. This would again mean that no compensation is payable for irreparable damage caused to the environment. The definition is vague as to the meaning of 'restoration measure'. It is not clear whether the compensation regime covers the damages incurred to the port authorities because of the closing down of port until the spill is put under control. It is also not clear whether it covers the lives and means of living of fishing folks and coastal community. In that way, whether there is any scope for invoking *parens patriae* doctrine as in the cases of other environmental disasters is not clear.

Ship Owner's Liability under Tort

The common law doctrines of public nuisance⁴⁹, trespass⁵⁰, negligence⁵¹, rule of strict liability⁵² and absolute liability⁵³ and the riparian

⁴⁸ *Id.*, S. 352(H)(f)

⁴⁹ The Indian Penal Code, 1860, ss.268-294 A

⁵⁰ *Esso Petroleum v. Southport Corporation*, (1956) A.C. 218

⁵¹ *Mukesh Textiles Mills (P) Ltd. v. H.R. Subramania Shastry*, A.I.R 1987 Kart. 87; *Naresh Dutt Tyagi v. State of U.P.*, 1995 Supp. (3) S.C.C 144; *B. Venkatappa v. B. Lovis*, A.I.R 1986 A.P. 239

owner's rights⁵⁴ are incorporated into Indian law but invoked very rarely in air and water pollution cases. Those doctrines created by the common law is meant to fix liability for the escape of the noxious objects, careless use of noxious articles and pollutants and the infringement of property rights in water.

The liability for pollution damage is strict on ship owners, irrespective of their nationality⁵⁵. As per the law, "...the owner is a person registered as owner of the ship; in the absence of registration the person owning the ship; or in the case of a ship registered in foreign state, the person registered in that state as the operator of the ship"⁵⁶. He may be exempted from the liability in cases of war, hostilities, civil war, insurrection and such other unforeseen emergencies. He is also exempted in cases where the pollution damage is caused entirely by a third party intervention or negligence by the government authority in providing proper navigational aids⁵⁷. Exemptions are also granted to war ships and other government ships used for non-commercial purposes based on the doctrine of sovereign immunity. When two or more ships are involved in the tort, all the owners are jointly and severally liable for the loss incurred⁵⁸. The ship owner is also exempted from liability if the plaintiff himself had contributed to the pollution damage or loss⁵⁹.

⁵² *Becharam Choudhury v Pububrath*, (1869) 2 Beng. L.R. 53; *M.Madappa v K. Kariapa*, A.I.R (1964) Mys. 80

⁵³ *M.C. Mehta v. Union of India*, A.I.R 1987 SC 1086; *Union Carbide Corporation v Union of India*, Civil Revision No. 26 of 1988

⁵⁴ *M.C. Mehta v. Union of India*, A.I.R 1988 SC 1115.

⁵⁵ *Id.*, s. 352 I

⁵⁶ *Id.*, s. 352 (H) (c)

⁵⁷ *Id.*, s.352 I (2)

⁵⁸ *Id.*, s.352 I (3)

⁵⁹ *Id.*, s. 352 I (4)

Under the provisions of the MSA, only the ship owners can be held liable for the pollution damage. The liability cannot be imposed on the master and crew, operators and salvors unless there is proven negligence or recklessness by these persons who have contributed to the pollution damage⁶⁰. The Act excludes certain persons from the strict liability regime⁶¹. In cases of oil pollution damage the ship owner cannot limit his liability⁶².

Compulsory Insurance as a Requirement for Port Entry

Compulsory insurance scheme is prescribed under the Merchant Shipping (Regulation of Entry of Ships into Ports, Anchorages and Offshore Facilities), 2012⁶³. “Any vessel of 300 GRT or more, other than Indian Ship, entering into or sailing out of ports, terminals, anchorages or seeking port facilities or Indian offshore facilities in Indian territorial waters shall be in possession of insurance coverage against maritime claims and established policies and procedures for their supervision”⁶⁴. The oil or chemical tankers

⁶⁰ *Id.*, s. 352 I (6)

⁶¹ *Ibid.*, These persons are:

- “(a) the servant or agents of the owner or the members of the crew;
- (b) the pilot or any other persons who, without being a member of the crew, performs services for the ship;
- (c) any charterer (howsoever described, including a bare boat charterer), manager or operator of the ship;
- (d) any person performing salvage operations with the consent of the owner or on the instructions of a competent authority;
- (e) any person taking preventive measures;
- (f) all servants or agents of persons mentioned in sub- paragraphs (c), (d) and (e).”

⁶² *Id.*, s. 352 (A) (3)

⁶³ G.S.E 311(E) on 20th April 2012, the Merchant Shipping (Regulation of Entry of Ships into Ports, Anchorages and Offshore Facilities), 2012

⁶⁴ *Id.*, s.3

which are more than twenty years old; general cargo and passenger vessels of more than 25 years old; and LNG tankers of more than 30 years old should have a class certification by a classification society which is a member of the International Association of Classification Societies duly authorized by Indian maritime administration⁶⁵. The operators of all foreign vessels in Indian waters should have a valid P & I insurance coverage against all maritime claims as mentioned under the LLMC⁶⁶. No ship shall be permitted to enter respective port without having P & I insurance to cover a maritime adventure⁶⁷.

Pollution Damages under General Environmental Laws

The liability and damages relating to pollution from hazardous substances is dealt primarily under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 made under the EPA, 1986 scheme and also under the Public Liability Insurance Act, 1991 and the National Environmental Tribunal Act, 1995. The Public Liability Insurance Act, 1991 gives immediate relief to persons affected by an accident occurring while handling of hazardous substances and matters related thereto. The handling of hazardous substances includes 'transportation by vehicle other than railways' and thus maritime transport and incidents in connection thereto are coming under the purview of the Act⁶⁸. The ship owner's strict liability includes providing immediate relief under the Environmental Relief Fund and from the insurance coverage⁶⁹. The central government can exempt any public or state corporations from taking out insurance policies. This is the greatest deficiency of the Act as it may dilute the adjudication proceedings.

⁶⁵ *Id.*, s.4

⁶⁶ *Id.*, s.5

⁶⁷ *Id.*, s. 352 N; *M.V. Sea Success I v. L. & L.S.P & Indemnity Assn. Ltd.*, A.I.R 2002 Bom. 151

⁶⁸ The Public Liability Insurance Act, 1991, s. 2(c) and 2(j)

⁶⁹ *Id.*, s. 2(g) and 3

Any excess quantum of damages and as above those prescribed under the Public Insurance Scheme is enforceable under the National Environmental Tribunal Act, 1995. In case of environmental damage resulting during the handling of hazardous substances and also for destruction of bio diversity, compensation may be claimed under this Act and the liability of the ship owner is strict.

Even though the provisions of LLMC, 69 are incorporated under the MSA scheme, India has not ratified the HNS Protocol. Strict enforcement of the provisions of general environmental law is possible only if the HNS is ratified and MSA is amended thereby adopting its provisions.

Ship Detentions and Release

If the ship owner violates any of the provisions mentioned under the Merchant Shipping (Amendment) Act, 2002, regarding strict liability, the ship may be detained⁷⁰. It has to be released after sufficient security is provided. In *Videsh Sanchar Nigam Ltd., (VSNL) v. Kapitan Kud*⁷¹ the Supreme Court pointed out that the arrest of the vessel effected under provisions of the MSA and the admiralty rules can be lifted only on deposit of security in the Court by the vessel owner.

“The vessels or property will be ordered to be released if the limitation fund has been constituted, in the port where the occurrence took place, or, if it took place out of port, in the first port of call thereafter; in the port of disembarkation in respect of claims for loss of life or personal injury; or in the port of discharge in respect of damage to cargo”⁷².

The court also held that,

⁷⁰ The Merchant Shipping (Amendment) Act, 2002, s.352

⁷¹ A.I.R 1996 SC 516

⁷² The Merchant Shipping (Amendment) Act, 2002, s.352 D

“If damage has been caused to property belonging to the Government or to any citizen of India or an Indian company by a foreign ship, by reason of unauthorized acts or negligent conduct on the part of the ship owner or his agents or servants, wherever the cause of action has arisen, or wherever the ship is registered, or wherever the owner has his residence or domicile or place of business, such a ship, at the request of person aggrieved, is liable to be detained when found within Indian jurisdiction”⁷³.

Civil Jurisdiction in Maritime Claims

In India, Admiralty jurisdiction was originally vested only with the Recorder’s Court at Bombay, which was established by the Charter dated 20th February, 1778. Later on, the Recorder’s court was superseded by the Supreme Court of Judicature by means of the Letters Patent issued by the Charter of 1823 and admiralty powers were retained on it. In 1862, the High Court of Bombay was established by the Letters Patent. Thereafter, by virtue of the powers under the Colonial Courts of Admiralty Act, 1891, the High Courts at Calcutta and Madras were also vested with Admiralty jurisdiction. There was a view that only the High Courts of Bombay, Calcutta and Madras were having admiralty jurisdiction.

In *M.V.Elizabeth v. Harwan Investment and Trading Company*⁷⁴, the issue was “whether any court in the State of Andhra Pradesh or in any other State in India (including the High Courts and Supreme Court) had admiralty jurisdiction to proceed *in rem* against an arrested ship on a cause of action concerning carriage of goods from an Indian port to a foreign port”. The Supreme Court held that even though the Indian high courts are established like

⁷³ *Id.*, s. 443 and 444

⁷⁴ A.I.R 1993 SC 1014

their British counterparts, ‘the high courts in India never acquired the supreme civil jurisdiction on all matters including admiralty for being a court of record. Unlike, the English statute, the Colonial Courts of Admiralty Acts, 1890 and 1891 never conferred on Indian high courts separate and distinctive admiralty jurisdiction’. The Supreme Court, observed that,

“...the High Courts of India being courts of unlimited jurisdiction, and the repository of all judicial power under the constitution, except what is excluded, are competent to issue directions for the arrest of a foreign ship in exercise of a statutory jurisdiction or even otherwise to effectuate the exercise of its jurisdiction”⁷⁵.

But this jurisdiction of High Courts is strictly confined to its territorial limits only.

The main issue in *World Tanker Carrier Corporation v SNP Shipping Services Pvt. Ltd.*⁷⁶ was that when a collision happens in international waters, whether the foreign owners of a foreign vessel could apply to an Indian High Court to set up a limitation fund. The Supreme Court held that

“the unintentional presence of the ship in Bombay harbour would not entitle the owner to file a limitation action in the High Court in the absence of any claim being made against the vessel or the vessel being in the custody of the court”.

It was also held that as per the existing law,

“...if damage has been caused to property belonging to the Government or to any citizen of India or an Indian company by a foreign ship, by reason of unauthorized

⁷⁵ *Ibid.*

⁷⁶ A.I.R 1998 SC 2330

acts or negligent conduct on the part of the ship owner or his agents or servants, wherever the cause of action has arisen, or wherever the ship is registered, or wherever the owner has his residence or domicile or place of business, such a ship, at the request of person aggrieved, is liable to be detained when found within Indian jurisdiction”⁷⁷.

In *Mayar (H.K.) Ltd. and Others v. Owners & Parties, Vessel M.V Fortune Express and Others*⁷⁸, the Supreme Court held that unless the bill of lading has an exclusion clause suggesting proper forum for litigation, the High Court of Calcutta had jurisdiction to decide the case. In this case, a recovery suit for damages was filed before the Calcutta High Court for short landing of certain wooden logs for which the appellants had chartered a vessel from Malaysia to Calcutta. The appellants had demanded arrest of the vessel when it was in Calcutta port.

One step forward, the High Court of Kerala in *MV Free Neptune V. D.L.F. Southern Towns Pvt. Ltd.*⁷⁹, had issued an arrest warrant for the ship which was anchored in Chennai port. It was held that the High Court of Kerala has inherent powers to adjudicate admiralty cases under its civil jurisdiction. Since the High Court had not framed admiralty rules, it imported the admiralty rules of the Madras High Court for adjudicating admiralty cases in the state. Now, as a result of this judgment, any civil suit may be filed before the High Court of Kerala by invoking its admiralty jurisdiction.

In India, under the Admiralty Jurisdiction Act, 1860, an action for claim can be brought ‘*in personam or in rem*’⁸⁰. In this way, the claimant can proceed

⁷⁷ The MSA, 1958, s.2(1)

⁷⁸ [2006] 3 SCC 100

⁷⁹ 2011 (1) KLT 904

⁸⁰ The Admiralty Jurisdiction Act, 1861

either against the ship involved in cause or against the owner. On this aspect, literally, the Indian law is in tune with the law in other major maritime countries. The major deficiency is the absence of clear statutory provisions supporting such claims. In India, the usual practice in maritime claims is to obtain an order for the arrest of ship. The owners will provide bank guarantee and the ship sails into the next port of call.

Under the existing law, *in personam* proceedings against the owner are very difficult and impractical. As per the prevailing circumstances, the owner of the foreign ship is most unlikely to be available for prosecution, within the Indian jurisdiction. Hence, the master can be prosecuted for his physical presence and for the reason that a personal prosecution is more likely to bring home to the master his individual responsibility and thus to make him more careful in future. An issue when prosecuting the master rather than the owner is that, “the fine on the master must be relevant and proportional to his personal responsibility”, while the fine on the owner can relate to the nature and extent of pollution. In order to impose monetary penalties upon the captain, crew or agents of the ship owner, there should be a proven act or omission committed with an intention to cause such damage, or recklessly with full knowledge that such a damage is the probable result of such acts or omission. The law gives an option to proceed either against the ship or the owner or master. But at the same time, to proceed against the master, it insists on strong evidentiary requirement to prove the willful negligence of the master or crew, causing pollution. In effect, the claimant can proceed only against the ship involved in cause.

Hence, during *in personam* proceedings, the power of the court is limited, only to hold the master and thereafter imposing fine on him proportionate to his responsibility, thus not placing the owner under direct liability. Unless the owner cannot be made responsible, the entire purpose of compensation regime will be futile. The law does not address this.

The British law has undergone radical changes but in India the provisions are the same, in spite of the dynamic changes in shipping operations. A committee appointed by the Central government had opined that admiralty jurisdiction in India is out dated and requires a comprehensive legislation, defining the scope of admiralty jurisdiction of the courts is an immediate requirement⁸¹. Because of the inadequate provisions in law that has actually weakened the civil liability regime, there is increase in criminal prosecutions against seafarers worldwide.

Criminalization of Seafarers for Maritime Accidents

On 24th March 1989, the *Exxon Valdez* had grounded on the Bligh reef causing the greatest crude oil spill that the world had ever witnessed. The spill had caused massive environmental pollution of the Alaskan waters. Consequently, Captain Joseph Hazelwood was prosecuted along with the Exxon shipping company and the Exxon Corporation. For the first time in the history, the captain, ship owner and ship operator were criminally prosecuted for accidental pollution. This trend slowly spread into other legal systems. For example, when the *Prestige* disaster occurred, the Captain Apostolos Mangouras of the tanker was arrested by the Spanish authorities on grounds of not cooperating with salvage crews and for harming the environment. His release was allowed on a bail of 3 million Euros by the European Court of Human Rights⁸².

In April 2004, eight crew members of the tanker *Tasman Spirit* were arrested and detained for eight months for an oil spill near the Karachi port resulting from a collision. They were released upon discussions between the Pakistan authorities, Greek government and the IMO⁸³. In September 2009, the

⁸¹ The Parveen Singh Committee Report, 1986

⁸² Justin Stares, "Industry Shocked by Mangouras Verdict", *Lloyd's List*, January 9, 2009

⁸³ Jeanne Grasso and Allison Fennell, "Criminal Prosecutions and the Maritime Industry—A World-wide Trend, 2005", International Oil Spill Conference, <http://www.iosc.org/papers/IOSC%202005%20a159.pdf>, last visited in December 2013

Indian captain Jasprit Chawla and chief officer Syam Chetan of the tanker *Hebei Spirit* were prosecuted and punished by the South Korean Maritime Safety Tribunal for a collision incident and oil spill resulting from it in the Korean port of Daesan⁸⁴. In 2011, following the collision between the Indian warship INS Vindhyagiri and the German vessel M.V. Nordlake near the Mumbai port, the captain of the vessel was arrested for negligent and rash navigation and investigations were done by the Mumbai police.

At the behest of monsoon, Indian coastal line is becoming extremely dangerous for safe navigations due to heavy traffic congestions. When a marine casualty happens within the territorial waters, preliminary investigations are conducted and if there is ample evidence for willful violations, criminal prosecutions are initiated against the captain of the vessel and crew responsible for the incident. A writ petition can also be filed before the concerned High Court for detaining the vessel under the provisions of the MSA. The intention is to make the owner responsible and get his presence available for the trial. This has been a practice followed by many countries across the globe.

International Laws on Coastal State's Right to Investigate on Marine Casualties

The SOLAS Convention 1974 prescribes duty upon the flag states to conduct investigations into any casualty suffered by a ship of its flag, if the investigation is to assist in identifying legal issues as a contributing factor. This provision is incorporated in many other conventions such as the Load Line Convention, 1966. The duty sprouts out from the UNCLOS⁸⁵. Coastal States

⁸⁴ "Shipping World United Behind the Hebei Two", Intertanko Annual Review and Report, 2008-2009; Also See, Michael Ha, "Hebei Spirit Case Getting International Spotlight", reported in the Korea Times, January 21, 2009, available at http://www.koreatimes.co.kr/www/news/nation/2009/04/116_38295.html, last visited in December 2013

⁸⁵ The UNCLOS 1982, art. 94(7) reads, "Each State shall cause an inquiry to be held by or before a suitably qualified person or persons into every marine casualty or incident of navigation on the high seas involving a ship flying its flag and causing loss of life

can adopt any measure to prevent pollution in the territorial waters. In the EEZ, the coastal states can adopt such laws in conformity with the international rules and standards. Under the MARPOL, coastal states can impose sanctions severe enough to dissuade its non-compliance. The MARPOL does not empower imposition of criminal liability in accidental pollution except when the incident had happened intentionally or recklessly. The UNCLOS further restricts criminal prosecutions against seafarers⁸⁶. Accordingly, if the incident happens beyond the territorial waters, or if inside the territorial waters but without any intention to cause it, only monetary penalty can be imposed.

The coastal states sovereignty within the territorial waters and its jurisdiction or sovereign rights up to the EEZ empowers it with an inherent right to investigate into marine casualties affecting its coasts. All major countries have incorporated these provisions and the MSA also recognizes India's right to investigate into marine casualties affecting its territory⁸⁷. The International Labour Organization's Maritime Labour Convention, 2006 provides a provision for investigation of serious marine casualties as well as setting out working conditions for seafarers. India has not ratified this convention⁸⁸.

International Instruments for the Protection of Seafarer's Right

The IMO Guidelines on the Fair Treatment of Seafarers in the event of a Maritime Accident⁸⁹ are frequently violated by many countries and there is

or serious injury to nationals of another State or serious damage to ships or installations of another State or to the marine environment. The flag State and the other State shall cooperate in the conduct of any inquiry held by that other State into any such marine casualty or incident of navigation.”

⁸⁶ *Id.*, art.230

⁸⁷ The MSA 1956, Part XII, ss. 358-361

⁸⁸ The Maritime Labour Convention 2006

⁸⁹ The IMO Guidelines on the Fair Treatment of Seafarers in the event of a Maritime Accident, 2006

widespread concern among seafarers upon this crucial issue. These concerns are detrimental to the existence of the industry itself and it was promptly addressed by the IMO by means of a Resolution in 2011⁹⁰. These guidelines were aimed to ensure fair treatment to seafarers, who are facing criminal prosecutions in a coastal or port state following a maritime accident. It addresses the coastal states to protect the basic human rights of the seafarer and to give them fair trial without any discrimination and in due process. The flag states are asked to co-operate with the coastal state and take necessary steps in ensuring fair treatment to mariners. The state to which the crew is a national is also recommended to conduct necessary interactions with the coastal state and co-operate with the investigations. The mariner is directed to reveal all necessary information and to co-operate with the coastal state authorities in finding out the root cause of the incident.

In 2008, the Casualty Investigation Code⁹¹ was adopted as a result of the disparity in national laws about fair treatment to seafarers and to promote co-operation among nations in this regard. This Code is meant to establish the best practices in marine casualty and marine incident investigation. It incorporates the recommendations of the IMO Resolution⁹². The code specifically states that “Marine safety investigations do not seek to apportion blame or determine liability. Instead a marine safety investigation, as defined in this Code, is an investigation conducted with the objective of preventing marine casualties and marine incidents in the future”⁹³. The code describes pollution damage or potential damage to the environment as a marine

⁹⁰ The IMO res. A.1056(27), 2011

⁹¹ The Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident, 2008

⁹² The IMO res. A.849 (20)

⁹³ The Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident, 2008, ch.1, *See* the objectives

casualty⁹⁴. Marine incident include any incident or chain of events which may harm the environment or the safety of the ship⁹⁵. In the event of any casualty, the coastal states are obligated to notify the incident immediately to all interested states⁹⁶. It should ensure due process, unbiased and independent investigation, mainly focusing on safety and not on liability. It obligates states to facilitate co-operation and give priority to marine casualty investigation in the same way as being done in criminal prosecutions.

Challenges to Implement Fair Treatment to Seafarers

In spite of all these legal measures at national and international levels, criminalization of sea- farers is increasing at an alarming rate for reasons best known to the nations involved. Recently, an Indian captain Sunil James was arrested in Togo and detained for 6 months when he tried to anchor the ship M.T. Ocean Island Centurion, flagged Marshall Islands, at one of the ports of the country to escape from a pirate attack⁹⁷. At least in some of the cases, the detentions extended up to 10 or more years, as in the case of the *prestige* and *Hebei Spirit*⁹⁸. This shows the blatant violation of the international law on the topic. In an attempt to safeguard national interests, many countries are incorporating stringent arrest and detention provisions in their national laws⁹⁹.

For example, the United States has no jurisdiction over foreign vessels for discharges happening in international waters. “In spite of this legal constraint, the Coast Guard aggressively investigates and prosecutes violations of the Act for Prevention of Pollution by Ships and other environmental

⁹⁴ *Id.*, s. 2.9 (7)

⁹⁵ *Id.*, s. 2.10

⁹⁶ *Id.*, ch. 5 , notification, ss. 5.1 -5.4

⁹⁷ Reported in the Economic Times, 19th December 2013

⁹⁸ Alla Pozdnakova, *Criminal Jurisdiction over Perpetrators of Ship Source Pollution*, Martinus Nijhoff, Leiden (2012)

⁹⁹ *Ibid*

statutes. The USCG charges crewmembers and corporate entities for presentment of a false ORB, for obstruction of justice, conspiracy and witness tampering; often using these offenses as a means to extend its reach beyond U.S. territorial waters”¹⁰⁰. The USCG has a dual role to play in cases of maritime accidents. It is the supervising agency in clean up and response measures. At the same time, it supports the law enforcement agencies by handing over any valuable pieces of evidence, which has been identified during preliminary investigations to the Department of Justice for trial purposes. Environmental cases are dealt under the Public welfare statutes and strict liability will be imposed irrespective of the fact whether the pollution damage was caused intentionally or negligently. The Coast Guard investigations thus play a pivotal role in deciding the future of the mariner. Under the OPA 90 scheme, the USCG has been vested with immense powers to impose civil penalties.

If a party negligently causes oil spill, the U.S. federal government can also assess *criminal* fines of US\$25,000 per day and also with one year imprisonment. Fines up to US\$50,000 per day along with or three years imprisonment may follow if a spill is caused “Knowingly”. If OPA 90 regulations are violated with the knowledge of seriously endangering another person penalties up to US\$250,000 may be imposed along with imprisonment up to 15 years for individuals and up to US\$1 million for corporations. With the second offense, the maximum penalties may double.

In addition to the federal civil and criminal penalties for OPA 90 violations, the same proceedings may follow at the state level. The OPA scheme allows states to set out their penalty limits, which may sometimes be even higher than those set by the federal laws.

¹⁰⁰ Michael G. Chalos et.al., “The Criminalization of Maritime Accidents and Marpol Violations in the United States”, 23 *University of San Francisco Maritime Law Journal* 214 (2011)

Indian Position

In India, the captain or crew of the ship cannot be held liable for pollution damage unless “...the incident causing such damage occurred as a result of their personal act or omission committed or made with the intent to cause such damage, or recklessly and with knowledge that such damage would probably result”¹⁰¹. Hence, to impose monetary penalties upon the captain, crew or agents of the ship owner, there should be a proven act or omission committed with an intention to cause such damage, or recklessly with full knowledge that such a damage is the probable result of such acts or omission.

In India, when pollution damage occurs as a result of some marine casualty within the port area, the master of the ship should first inform the port authorities and side by side activate the ship board oil pollution emergency plan or the ship board marine pollution emergency plan to mitigate its effect. The port authority should handle the pollution as per the crisis management plan for the port, considering the gravity of the pollution. The ports, maritime boards and concerned agencies should send the report to the D.G. Shipping. The deputy conservator for port is the preliminary investigating agency to conduct investigation about the marine casualty. He submits the report to the judicial first class magistrate before whom will follow the criminal prosecutions¹⁰².

The preliminary investigating agency should be an independent agency. This will make the enquiry speedy and reports accurate. In this manner the trial could be made more expeditious.

If it is proved that the incident was because of reckless act or willful violations, criminal penalties may be imposed under the Indian Ports Act, 1908¹⁰³.

¹⁰¹ The MSA 1958 as amended in 2002. S.352I (6)

¹⁰² The MSA 1958, ss.358-361

¹⁰³ The Indian Ports Act, 1908, s.21

Prosecutions are also possible under the Water (Prevention and Control of Pollution Act), 1974 and the Environmental Protection Act, 1986. The person who is found to be responsible for pollution of coastal waters may be given imprisonment for a maximum period of 6 years with additional fine. For repeating offences, the imprisonment can extend up to 7 years along with additional fine.

For rash and negligent navigation of the vessel, the captain may be imprisoned for a period of 6 months and with a fine of Rupees 1000 under the Indian Penal Code¹⁰⁴. If the marine casualty results in hurt or grievous hurt to the person or personal safety of others, criminal prosecutions could be initiated under the Penal Code¹⁰⁵.

Hence, the Indian law permits criminal prosecution of seafarers under the provisions of the Merchant Shipping Act, the Indian Ports Act and the general environmental laws and the Indian Penal Code. One of the deficiencies identified is that, the sea farer involved in the marine casualty should face double trial—one under the shipping legislations and the other under the Penal code. This has created delay in closing the investigation proceedings on time and there are instances when mariners had to undergo trial for several years. For example, the mariners of *M.T. Dadabhai Naoroji* and *MT Bhagat Singh* had to face criminal trial for over 15 years, following the death of 5 persons from two separate fire incidents on board of the vessels while it was anchored in Cochin port. Finally they were acquitted of all charges. This incident throws light upon the inadequacy of national laws in adjudicating cases relating to marine casualties¹⁰⁶.

The major difficulty is that the enquiry under the MSA, 1958 and the Indian Ports Act, 1908 are administrative enquiries. It is not final as such.

¹⁰⁴ The Indian Penal Code, 1860, s. 280

¹⁰⁵ *Id.*, ss. 337 & 338

¹⁰⁶ Such incidents are beyond the scope of Part XB, Part XC and Part XIA of the MSA, 1958

Therefore, marine casualties in India face huge investigative delays. To overcome this difficulty, the Government of India had constituted a Marine Casualty Investigation Cell in 2010. The Cell was constituted to undertake investigation into marine casualties, such as groundings, sinking, or collision of vessels or death or grievous injury or missing reports of seafarers. It has not started functioning. At least, a dozen marine casualties are reported to have occurred along the Indian coastal line during the monsoon season every year. Yet, no one knows about the status of investigations made into them. If any Oil spill happens in USA, decisions are quick and investigations are conducted and closed at the earliest. Litigations can follow later. It is hoped that once the new agency starts functioning, time bound investigations will be conducted in an efficacious manner.

Conclusions

The Contingency Planning and Response system in the USA is based upon the ‘*potential polluter pays*’ principle whereas in India it is the *Government –only –Approach*¹⁰⁷. The main drawback of the Indian system is that the ability to deal with major spill is contingent on the happening of the incident. In the USA and Canada, the system has adopted new techniques and standards to deal with major oil spill catastrophe, which is primarily based on a long term commitment to the problem posed by oil spills. These countries by means of legislation have integrated the salvage operations with the contingency plan. Therefore, expert towing arrangements are readily available. The vessels in distress are given safer options or at least helped to find other alternatives. The USA under the OPA 90 scheme follows a *proactive response approach* and hence is far more capable in controlling spills when compared to the European counterparts.

When it comes to the implementation of the NOS-DCP plan, there has been a strong prominence in the co-ordination roles and practically nil

¹⁰⁷ Marlene Calderon Veiga, “A Comparative Analysis of the European and North-American Approaches to Dealing with Major Oil Spills”, *3World Maritime University Journal of Maritime Affairs* 14 (2004)

responsiveness to command and control procedures. The Port authorities have not developed expertise in risk management procedures. Little effort is being made to evaluate the effectiveness of the policies and regulations on a regular basis. Practically no research and development projects in the field of oil spill prevention and response has been attempted so far. Functional responsibilities have been allocated to various stakeholders, yet no feedback is attempted or at least there is not an established mechanism to ensure effective participation of them in the definition and implementation of preparedness and response policies. Thus, more comprehensive and elaborated guidelines need to be developed for the regional and local contingency and response plans. With regard to contingency planning, India has weaker legislation compared to that implemented in the US and Canada. This situation can be mainly attributed to the fact that India has not implemented an intelligible and regular structure to evaluate the ability, competence and usefulness of the measures taken. India should enter into regional co-operation and bilateral agreements with neighbouring countries so as to implement the contingency planning and response envisaged under the OPRC. The OPRC-HNS Protocol need to be ratified and immediate legislation is required in this behalf so as to eliminate the risk of accidental spill of hazardous goods.

The Indian law when defining a wreck is not in tune with the international regime. Therefore, it creates ambiguity as to the scope and extent of powers of the receiver in marking, raising, removing or selling of wrecks without any liability to the owner. The 'government alone approach' is the rule regarding removal of wreck at present. Even if the wreck is not affecting environmental or public safety because of the current statutory provisions, compensation claims cannot be strictly enforced against the owner as the wreck should be an abandoned vessel or goods. Also, Salvage laws are not integrated with the NOS-DCP Contingency Plan. Thus, there are potential pollution risks while salvage operations are going on for removing wrecks. The Indian Law does not address this issue.

Across the globe heavier penalties are imposed in accidental oil pollution cases under the civil liability regime. The MSA, 1958 is inadequate in fixing the quantum and liability in marine casualties. Collision is dealt under a separate part and the Act completely ignores collisions leading to pollution. The Act has no provisions to be applied in such cases. Moreover, all vessels other than tankers are left out from its purview for civil liability in oil pollution damages. In cases of marine casualty, the provisions of MSA are inept for representing community interests collectively. Under the Act pollution damage is restricted to reasonable costs involved in reinstatement but it is not clear about as to what constitute the “reasonable measures of reinstatement”?

If the owner can prove that the pollution damage has occurred because of the willful negligence of any other person he may easily escape from the liability under the Act. This may put the master directly responsible. Criminalization of seafarers is not at all the best practice of reinstatement. Unless the owner cannot be made responsible, the entire purpose of compensation regime will be futile. The law does not provide adequate provisions.

The Indian law permits criminal prosecution of seafarers under the provisions of the Merchant Shipping Act, 1958, the Indian Ports Act, 1908 and general environmental laws and the Indian Penal Code, 1860. One of the deficiencies identified is that, the sea farer involved in the marine casualty should face double trial-one under the shipping legislations and the other under the Penal code. This has created delay in closing the investigation proceedings on time and there are instances when mariners had to undergo trial for several years. The enquiry under MSA and Indian Ports Act are administrative enquiries. Therefore, marine casualties in India face huge investigative delays and nothing is put to the ordeal of the court finally.

India lacks a consolidated law for dealing with marine pollution from collisions at sea. The existing law is too inadequate to deal with marine casualty incidents. The MSA is not enough to fix the quantum and liability in

marine casualty cases. Vessel detentions are temporary solutions since, the ship owner may abandon the vessel and the government will be left with the job of cleaning up the shores.

Hence, it is suggested that there is an urgent need to amend the law on collisions and civil liability regime under the MSA and the investigative proceedings under the Indian Ports Act, 1908 to keep it in tune with the international regime. It is suggested that Indian law should also incorporate provisions for ship pollution response contracts as between the ship owner and the recognized pollution response agencies as a condition for entry into ports. It is also suggested to make arrangements with advanced countries for technology sharing to combat major spills. Port authorities should have sufficient man power for supervising and maintaining navigational and safety aids.

Chapter 9

CONTROL OF PORT POLLUTION FROM SHIP RECYCLING

The activities at modern seaport make it a complex picture. They are not anymore mere transit hubs; but base for various industrial operations like ship building, repairing, dismantling and recycling. Most of the ports provide wharf and storage facilities for bulk and container cargoes. In order to reduce the transportation and storage costs major industrial and manufacturing units are established inside the port area. The tremendous rise in sea trade and the progressive demand for sophisticated vessels have kindled the development of these port related industries in India.

Vital statistics and surveys conducted by various agencies shows the rapid industrialization of maritime ports¹. The Lloyd's Fair Play List indicates tremendous growth in the ship recycling rate in the coming years². The recent

¹ Report of the working group for ship building and ship repair industry for the 11th Five year plan, available at http://planningcommission.nic.in/aboutus/committee/wrkgrp11/wg11_shipbuild.pdf, last accessed in June 2013 It states, "From a marginal country in ship building with a contribution of just 0.1% in 2006, India's share is expected to be at 2.2% of the world market by 2012. The ship repair industry is likely to contribute towards annual turn-over at the rate of around 3 billion Dollars by 2012."

² For general information on ship recycling statistics, *see*; Dr. Nikos E. Mikelis, "A statistical overview of ship recycling", International Symposium on Maritime Safety, Security & Environmental Protection, Athens, September 2007, available at www.imo.org/shiprecycling. He quotes Lloyd's Register- Fair Play- World Marine Fleet Statistics details for the year 2006. "The growth in world marine fleet was 7% in terms of gross tonnage and 4% in terms of ship numbers. Also, with the adoption of the Recycling Convention, around 49213 ships would fall under the purview of

Conference of the International Metal Worker's Federation, predicted a remarkable growth for recycling in the next twenty five years³. Hence, port based industries are given major thrust in the international trade and maritime policies of India⁴. These multifarious activities may boost up economic growth. But if it is not properly regulated, they may cause serious deterioration of the port environment.

In India ship building is in the emerging stage⁵. In contrast, India is a leading country in ship breaking at a gross tonnage of 30.29% of the total global contribution⁶. The other competitors in ship scrapping are China at 31%, Bangladesh at 26.84%, Pakistan at 8.42%, and the rest of the world contributing towards 3.81%⁷. Along in the Western coast of India is the biggest ship recycling site in the world. It gives two million tons of steel for the Indian

convention expecting recycling. This number is excluding government non-commercial vessels. The period 1998-2007 shows that over 40% of the world fleet had undergone the process in that period.”

³ Ship Building Statistics, March 2011, Ship Builders Association of Japan, quoted at International Metal Worker's Federation(IMF), International Ship Breaking Conference, 19-20 April 2011 at Mumbai, details available at http://www.imfmetal.org/files/11042116121510005/Kan_Presentaion.pdf., last accessed in June 2013

⁴ Draft Maritime Policy of India , dated February 25, 2010, available at www.shipping.nic.in

⁵ India's share in overall ship building tonnage is estimated at about 1.12%. In India, there are 27 shipyards, out of which 8 are in the public sector and 19 are private sector undertakings. For a detailed report on the prospects of the ship building and repairing industry in India, See, the ship building policy 2010 of the Ports and Transport Department, Government of Gujarat at www.gmbports.org/downloads/final_SHIPBUILDING_POLICY.pdf., last accessed in June 2013

⁶ *Ibid.* Also see, Ramapati Kumar, Ship Dismantling: A status report on South Asia, Mott MacDonald and WWF-India, www.wwfindia.org & www.mottmac.com

⁷ *Ibid*

industries annually and provides job opportunities for over 40000 people⁸. Simultaneously, the scrapping yards at Alang are causing grave environmental devastations to the ports and health hazards to thousands of labourers and local population⁹. Most of these yards in Alang resemble battlefields with metals bits, asbestos panes, thermocol, glass crumbs, oil and other stuffs scattered all over¹⁰. From an environmental and health perspective, it is observed that ship scrapping in India is carried out at totally deplorable conditions, raising critical issues on human rights and environmental justice¹¹.

Innumerable scientific and environmental reports state the harmful effects of ship scrapping. Of these, a study conducted by the European Commission on the environmental hazards of ship scrapping seems to be phenomenal¹². The International Labour Organization had published a discussion paper titled, “Is there a decent way to break up ships?”, where in the occupational hazards of ship

⁸ Report of the High Powered Committee on Management of Hazardous Waste, Government of India, 1995, See, http://envfor.nic.in/cpcb/hpreport/chapter_3.htm#3.3.4%20Shipbreaking%20activities%20and%20hazardous%20wastes., last accessed in June 2013. Other major ship recycling sites in India are Beypore in Kerala, dockyards in Mumbai and West Bengal, but the heart of the industry remains Alang

⁹ The samples taken by Green Peace activists from Alang shows dangerous levels of dust and toxic substances like asbestos, lead and mercury causing massive environmental calamity in the tidal beaches, [www.greenpeace.org/shiprecycling/Alangfactsheet.](http://www.greenpeace.org/shiprecycling/Alangfactsheet), last accessed in June 2013

¹⁰ David Dodds, “Breaking up is Hard to do: Environmental Effects of Ship Wrecking and Possible Solutions under India’s Environmental Regime”, *20 Pacific McGeorge Global Business & Development Law Journal* 207 (2007)

¹¹ John F. Sawyer, “Ship Breaking and the North-South Debate: Economic Development or Environmental and Labour Catastrophe?”, *20 Penn State International Law Review* 535 (2001)

¹² Commission of the European Communities, *Green Paper on Better Ship Dismantling*, SEC (2007) 645, Available at [http://ec.europa.eu/environment/waste/ships/pdf/com_2007_269_en.pdf.](http://ec.europa.eu/environment/waste/ships/pdf/com_2007_269_en.pdf), last accessed in June 2013.

scrapping from exposure to lead, chromates, radiation and explosives and large scale contamination of ground water and coastal areas are explained¹³. Scrapping produces catastrophic effects on the coastal environment along with rising sea-levels, as the pollutants from waterlogged beaches will be carried on to several nautical miles away from the shores.

No doubt, vessels will continue to provide cost-effective transportation well into the next century also. The sea-borne trade is expected to triple the volume by 2020. Owing to the new dimensions in design, manning, equipment and construction of vessels specified in the international conventions such as MARPOL 73/78¹⁴, Antifouling Convention¹⁵ and SOLAS 74¹⁶, most of the tankers, containers and bulk carriers in operation may become out-dated by 2015. Furthermore, a vast fleet of old warships and naval auxiliaries may have to be decommissioned in the coming years¹⁷. Practically, the death of a vessel leaves not many options for the ship owners to dispose it other than recycling.

¹³ John Tibbets, "Hazardous Waste: Constructing Rules for Dismantling Ships", 109 *Environmental Health Perspectives* A522 (2001)

¹⁴ The International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978. Here in after referred to as the MARPOL 73/78. The MARPOL was adopted on 2 November 1973 by the International Maritime Organization, herein after to be referred to as the IMO

¹⁵ The International Convention on the Control of Harmful Anti-fouling Systems on Ships, 2001

¹⁶ The International Convention for the Safety of Life at Sea, 1974, here in after to be referred to as the SOLAS

¹⁷ The US Maritime Administration (MARAD) had sent defunct naval ships called 'ghost ships' to India in 1997. Many more from the western world are expected to be dumped into the subcontinent in the near future. For media reports on such incidents visit www.greenpeace.org, last accessed in March 2014

Ship scrapping is a highly hazardous industry; whereas recycling¹⁸ is a basic principle of sustainable development¹⁹. The IMO guideline on ship recycling²⁰ makes it a point that in the process of recycling, nothing goes waste²¹. If properly regulated, ship recycling is a ‘green industry’. Thus, a good regulatory regime should be one that inspires the transformation from ship breaking to recycling. This is a highly complicated issue as it often includes reconciliation of socio-economic and environmental issues.

Ship scrapping, since a ‘pollution haven’ industry, if regulated properly, may be an asset to Indian economy. Otherwise, the country would soon become the junkyard of phase out vessels and tankers of the western world.

From an Indian perspective, ship scrapping is the key industry causing serious threat to the port environment. Therefore, it is necessary to analyse the

¹⁸ The Ship recycling convention, 2009, art. 2(10) defines recycling as, “the activity of a complete or partial dismantling of a ship at a ship recycling facility in order to recover components and materials for re-processing and re-use, while taking of hazardous and other materials, and includes other operations such as storage and treatment of components and materials on site, but not their further processing and or disposal in separate facilities.”

¹⁹ The Brunt land Commission had opined that ‘sustainable development’ is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. It implies the obligation to take into consideration the needs of present and future generations, the blending of social, economic and environmental policies. “Sustainable development’ is broader in perspective; a holistic idea to reconcile human rights, environmental concerns and economic development which are interlinked issues...”

²⁰ Resolution A. 962(23) passed by IMO Assembly on December 2003. Source: http://www5.imo.org/SharePoint/blastDataHelper.asp/data_id%3D11404/Res_Shiprecycling_962.pdf

²¹ *Ibid*, “Steel goes to industry, generators ashore, batteries to local economy, and hydrocarbons as fuel oils in rolling mills or brick lines. Therefore, recycling is a primary source of energy and contributes towards conservation of energy resources.”

Indian law on ship recycling. Other port related industries are beyond the scope of this study.

The Socio-Economic Realities Influencing the Shifting of Ship Scrapping to South Asia

Member nations of the European Union and the USA have highly sophisticated facilities for ship building, repairing and recycling but they are not in a position to compete with cheaper options available in China, India, Bangladesh and other South Asian countries. The environmental and health laws in South Asia are less stringent. Here, the labour is cheaply available and the people employed in scrapping are largely poor. They belong to the most illiterate and vulnerable sections of the society²².

The freight market rates and vessel volume plays a prominent role in deciding the scrapping capabilities. Ships are sold for scrapping when their maintenance costs exceed returns. Steel is the chief recycling product. Therefore, deep merchant fleet like Ultra Large Crude Containers²³ and Very Large Crude Containers²⁴ are preferred to bulk carriers and other small vessels. Cruise lines are least preferred as they have very little steel to offer. At the same time their scrapping involves more expensive procedures and the costs involved in their recycling are often unpredictable. The proximity of steel manufacturing units near the recycling yards also makes these scrapping destinations favourite for the western ship owners.

²² Tony George Puthucherril, *From Ship Breaking to Sustainable Ship Recycling*, Brill/Nijhoff (2010)

²³ Herein after to be referred to as the ULCCs

²⁴ Herein after to be referred to as the VLCCs

European countries are trying hard to bring back the industry to their shipyards but the economic conditions, especially the fluctuating markets have prompted the ship owners to opt for South Asian scrapping yards²⁵.

The relocation of ship scrapping industry from developed to developing countries, from stringent to weaker regulatory regimes may cause catastrophic effects on the coastal environment.

International Law on Waste Shipment

The demand for safety guidelines in ship scrapping was raised for the first time in the meeting of the Marine Environmental Protection Committee²⁶ of the IMO²⁷. Based on the working report of MEPC, the assembly had passed resolution²⁸. This was later amended by another resolution²⁹. The guidelines were addressed to all stake holders of the scrapping industry, including the flag, port and recycling states, intergovernmental organizations and commercial bodies such as ship owners, ship repairers, ship builders and recycling yards. The model guidelines were drafted based on the “Industry Code of Practice on Ship Recycling”³⁰, the

²⁵ Mark J. Kaiser, “A Review of Ship Breaking and Rig Scrapping in the Gulf of Mexico”, 39*Ocean Development & International Law*178 (2008)

²⁶ Herein after to be referred to as the MEPC

²⁷ 44th session of the IMO in March 2000

²⁸ MEPC res. 962(23) on *Guidelines on Ship Recycling* in November – December 2003

²⁹ MEPC res.980 (24) on *Guidelines on Ship Recycling*, amendments to res. 962(23), 2005

³⁰ This code was developed by the Institute of Chartered Ship Brokers and other industry players. *See*, www.marisec.org/recycling

guidelines produced by the Basel Convention³¹ and the guidelines of the International Labour Organization³².

As per the Guideline, the recycling states have the primary responsibility of maintaining environmental safety compliance. Before the vessel enters the recycling yard, they have to develop a 'Ship Recycling Plan'³³, after consulting the ship owners. The SRP includes methods and procedures relating to marking and removal of hazardous substances, worker's safety and health, sound environmental practices and works that may be accomplished prior to and on arrival of the vessel at the recycling facility. In short, the SRP should include a worker safety and health plan, an environmental compliance plan and an operational plan.

The environmental compliance plan³⁴ should identify the environmental risks associated with recycling facility, its capability in analysing and implementing environmental risks imposed by national and international laws and regulations, its skill for recycling in an environmental friendly manner and its expertise to handle and dispose of hazardous wastes in connection with recycling. The ECP should state the national legislation on ship recycling and also the Basel Convention on "Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships", wherever appropriate.

The guidelines also introduced 'green passport' for all ships in commercial transport. Every purchaser should maintain the accuracy of this

³¹ Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships, 2002, *See*, <http://www.basel.int/ships/techguid.html>

³² The Safety and Health in Ship breaking: Guidelines for Asian countries and Turkey, 2004 www.ilo.org/public/english/protection/safework/sectors/shipbrk/index.html, last accessed in June 2013

³³ Herein after to be referred to as the SRP

³⁴ Here in after to be referred to as the ECP

document by providing all design and equipment changes of the vessel from the time of its construction till the final voyage. Thus, the non-hazardous nature of the vessel has to be ensured before it enters the recycling yard.

Thereafter the IMO resolution³⁵ demanded a New Legally Binding Instrument on Ship Recycling, which provided for the design, construction, operation and preparation of vessels for sound recycling; the operation of ship recycling in an environmentally friendly manner and, the establishment of appropriate enforcement machinery to regulate and control ship recycling.

Subsequently, the MEPC 52nd session and the Technical Co-operation Committee³⁶ had established an International Ship Recycling Trust³⁷ fund, in an effort to extend financial support for technical co-operation to developing countries on sound environmental management practices on ship recycling³⁸. The MEPC 55th session had also developed the text of the draft ship recycling convention providing globally applicable ship recycling regulations for international shipping and recycling activities and also called upon an international conference to discuss the possibilities of adopting the convention on ship recycling. Thus, until the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009³⁹ comes into force; the United Nations network plays a prominent role in prescribing the international law on waste shipment.

The United Nation's Network Controlling Ship Scrapping

The International Labour Organization has adopted several conventions and mandatory requirements ensuring the safety of workers involved in ship

³⁵ MEPC res. 981(24)

³⁶ Hereinafter the TCC

³⁷ Herein after to be referred to as the ISRT

³⁸ For more details on ISRT Fund see, IMO Circular letter No.2703 of 20 April 2006

³⁹ Here in after to be referred to as the SRC

scrapping⁴⁰. Most of these guidelines are on occupational safety hazards from land based occupations including ship scrapping.

The Basel Convention⁴¹

There were many popular outrages against dumping of industrial and toxic wastes from developed countries to the developing world. In response to this, the Basel Convention on Trans boundary Movement of Hazardous Wastes was adopted on 22nd March 1989. The convention has been ratified by over 178 countries.

The Basel Convention was adopted to regulate international movement of hazardous wastes so as to preserve the human health and environment against adverse effects which may result from the generation, management, Trans boundary movements, and disposal of hazardous wastes.

Applicability of the Basel Convention to Ship Dismantling

The Convention extends to hazardous wastes and to wastes defined as hazardous waste under national legislation⁴². When a ship is sent for scrapping, it normally contains hazardous materials and may therefore be considered as a shipment of hazardous waste. Thus, a ship may indeed become 'waste' under the Convention and at the same time it may be defined as a 'ship' under other international rules. The Basel Convention thus applies to all ships that are "waste" as defined by the Convention. There are no exceptions for any types of ship.

The Basel Convention is a part of the United Nations system and is administered by the United Nations Environment Programme⁴³. The Basel Convention regulates the Trans boundary movement of hazardous and other

⁴⁰ *Supra* n.32

⁴¹ The Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal, 1989

⁴² *Id.*, art.2 states, "Wastes" are substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law."

⁴³ Herein after to be referred to as the UNEP

wastes⁴⁴. The Convention covers the environmentally sound management of hazardous and other wastes and their disposal. These principles are augmented to the design and operation of ship recycling facilities. The relevant bodies of the Basel Convention have developed and approved guidelines that relate not only to ship dismantling, but also to specific waste streams that may be generated during ship recycling activities⁴⁵.

Regulatory Regime under the Basel Convention

The entire system of regulation works under a prior informed consent process⁴⁶ for the Trans boundary movement of hazardous wastes. This procedure requires written authorization from the country of export and import, along with specific contracts between the exporter and disposer including those for bonds, guarantees and insurance before the Trans boundary movement of substances for disposal actually takes place. In addition to this, every recycling facility should have an environment sound management plan⁴⁷, applying the specifications detailed in the technical guidelines on ship dismantling. Beaching of vessel is not acceptable under the convention at any stage⁴⁸. The convention prohibits illegal trafficking of hazardous wastes⁴⁹. The convention also has provisions for proper communication, annual reporting and dispute settlement process.

⁴⁴ The Basel Convention, 1989, annexures I & II

⁴⁵ The Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships, 2002, *See*, <http://www.basel.int/ships/techguid.html>), last visited November 2011

⁴⁶ Herein after to be referred to as the PIC

⁴⁷ Here in after to be referred to as the ESM

⁴⁸ Decision VI/24 on Basel Ban Amendment, adopted in 2002

⁴⁹ The Basel Convention, 1989, art. 4(3) and (4)

In 1995, the convention was amended with an absolute ban of export of hazardous wastes from OECD to non-OECD countries⁵⁰. As on now, this amendment requires 17 more ratifications to flag off. On October 21, 2011, at the 10th conference of the parties to Basel convention, 178 countries agreed on a complete ban on exports of toxic wastes to developing world.

The European Community has adopted the 'Basel ban' by enacting the 'waste ship regulations'. The application and enforcement of Basel convention to ship dismantling cases is very difficult, as it is hard to identify when a ship becomes waste and the country of export under the definitions provided by the convention.

The IMO co-operates with the ILO and with the Basel convention on issues relating to ship recycling and have established a Joint ILO/IMO/Basel convention working group on ship scrapping. The joint working group has made remarkable study on the adverse effects of ship recycling and deficiencies in the enforcement regime and these studies became the fundamental pillars for the Ship Recycling Convention, 2009.

MARPOL 73/78⁵¹

The MARPOL convention bans oily discharge, and applies to ship breaking yards as they discharge oil and other greasy materials. It also requires the ship owner to pay for cleaning up the pollution from his ship.

The London Convention⁵²

The London convention vests with the flag state prime responsibility of prior informed consent by providing all necessary information related to scrapping to the ship owners before they send vessels for dismantling. The

⁵⁰ Decision III/I on Basel Ban Amendment, adopted in 1995

⁵¹ *Supra* n.14

⁵² The International Convention on Oil Pollution Preparedness, Response and Co-Operation, 1990

recycling country would inspect this information before permitting beaching. By the polluter pays principle, the ship owner and the exporting country are directly responsible for any kind of pollution and must pay the clean-up cost.

The European Union Waste Shipment Regulation⁵³

The EU regulation implements Basel ban in countries belonging to the European Union. It bans all exports of wastes regardless of hazardous nature except to European Free Trade Agreement countries. Throughout the waste shipment between the EU and developing countries as well within the EU, human health and sound environment management principles have to be adopted. The requirements of the European Union waste framework directive⁵⁴ and other EU legislation, for example on health and safety of workers or regarding the specific management of certain materials such as asbestos, should be respected⁵⁵. A ship for dismantling will fall under the export ban of regulation, if it contains hazardous wastes like PCBs as listed under Annexure V. All member states are to implement regulation by setting penalties for violations, provisions for inspections, waste recovery and disposal. The enforcement regime falls well within the territorial limits of European waters and ambiguity exists as to the enforcement of regulation at national levels.

The Hong Kong Convention on Ship Recycling

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009, was adopted at a diplomatic conference held in Hong Kong, China, in May 2009. The delegates from 63 countries attended the conference. The convention has not yet acquired the

⁵³ Regulation (EC) No 1013/2006/EC of 14 June 2006 on shipments of waste

⁵⁴ The EU Directive 2008/98/EC on waste shipment, 2008

⁵⁵ The Basel Convention, 1989, art.49(1)

required number of ratifications⁵⁶. The Convention is aimed at ensuring that ships, when being recycled after reaching the end of their operational lives; do not pose any unnecessary risks to human health, safety and to the environment.

The convention details on the survey and certification of ships, the authorization of ship recycling facilities and specific requirements such as the obligation for ship owners to establish an inventory of hazardous materials on board their ships, for ship recycling facilities to establish a ship recycling plan and for the flag states to conduct a final survey in order to issue an international ready for recycling certificate. An important element is the limitation for the use of hazardous materials in shipbuilding.

The convention provides for Port State Control type of enforcement regime but it does not ban the beaching process. So, beaching can be legitimately carried out in the soft sand beaches of South Asia even after the convention becomes the law.

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals & Pesticides in International Trade 2004

The Convention was adopted on 10th September 1998 in Rotterdam, Netherlands. The Convention entered into force on 24th February 2004. It creates a legally binding obligation for the implementation of prior informed consent procedure in the case of export-import of certain industrial chemicals. It covers export of hazardous chemicals that have been banned or severely restricted for health or environmental reasons by parties and which have been notified by parties for inclusion in the PIC procedure. By augmentation, the convention is applicable to ships for dismantling that carries hazardous chemicals.

⁵⁶ i.e.40% in terms of gross tonnage, *See*, www.imo.org/treaties/status last visited 20th January 2011

The Stockholm Convention on Persistent Organic Pollutants 2004

The Stockholm Convention came into force on 17th May 2004. The convention aims to protect human health and the environment from persistent organic pollutants. The convention bans export of certain hazardous chemicals⁵⁷ to the developing countries.

Synergies on Basel, Rotterdam and Stockholm Conventions

The Basel, Rotterdam and Stockholm Conventions are of common objective of preserving human health and environment from hazardous chemicals and wastes. The synergies functioning under the UNEP provides to the developing countries all help in taking decisions as to sharing of information regarding the export import of hazardous wastes, finance for technology adoption for safely disposal of hazardous wastes, various technical issues and the management of chemicals at different stages of their life cycle.

The United States Law on Ship Scrapping

The United States have strict laws for ship scrapping which includes the Occupational Safety and Health Act, 1970⁵⁸, the Resource Conservation and Recovery Act, 1976⁵⁹ and the Toxic Substances and Control Act, 1986⁶⁰.

The Occupational Safety and Health Act, 1970 provide procedures for ensuring occupational safety during ship scrapping. The Act lays down primary procedures that American Shipyards should adopt for eliminating workplace hazards.

The Resource Conservation and Recovery Act govern the treatment, management and disposal of hazardous wastes. Before exporting a vessel for dismantling, the exporter should notify the importing country, get its consent,

⁵⁷ The Stockholm Convention, 2004, listed in Annexures A to C

⁵⁸ 29 U.S.C.651

⁵⁹ 42 U.S.C.6901

⁶⁰ 15 U.S.C.2601

meet the requirements of Environmental Protection Agency comply with the concerned international treaties and conventions on ship scrapping and export of hazardous wastes to which the United States is a party.

The Toxic Control Act, 1986 bans the export of PCBs equal to or greater than 50 million per part. Before exporting a vessel for dismantling, the PCBs above the allowable limits have to be removed. The vessels built before 1975 do contain huge volume of PCBs above the prescribed limits.

In addition, the exporter should also look on to the provisions of numerous bilateral and multilateral treaties to which the United States is a party. These include the Basel Convention 1989, the North American Free Trade Agreement's Environmental Side Agreement, 1992⁶¹, the Organization for Economic Cooperation and Development's Decision Concerning the Control of Trans frontier Movements of Wastes, 1988⁶², the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972⁶³ and bilateral treaties⁶⁴.

Hence, practically a vessel has to be decontaminated before it is exported to non-OECD countries from the United States. The Environmental Protection Agency is the clearing agency to enforce the TSCA over vessels exported to recycling yards in the developing countries. Recently, a case was cited in the website of Basel Action Network. The U.S. Environmental Protection Agency had given clearance in March 2011 for a 1975 built American tanker, 'M.T. Prince William Sound' to be sold knowing that it

⁶¹ 32 *International Legal Material* 605

⁶² See, www.epa.gov/epaoswer/osw/internat/agree.htm, last accessed in June 2013.

⁶³ 1046 *U.N.T.S.* 120

⁶⁴ The Agreement Between the United States and Canada Concerning the Transboundary Movement of Hazardous Waste, 1986/1992, See, www.epa.gov/epaoswer/osw/internat/agree.htm, last accessed in June 2013

would be beached at Alang causing potential threats to the environment. This was done in violation of the provisions of TSCA⁶⁵.

On October 2009, the Ministry of Environment and Forests, India had denied permission for beaching and recycling of an American vessel named Platinum II at Alang. The vessel contained high quantity of hazardous wastes and was imported to India violating the provisions of the United States Toxic Substances Control Act, 1986. The U.S. Environmental Protection Agency had issued an order against the owners of the ship. The ship was imported in fake name and nationality⁶⁶.

This suggests that illegal vessel trafficking could be prevented by national legislation, co-operation between parties and sharing of information to Basel secretariat. Since the United States is not a party to Basel Convention, export of toxic wastes to the developing world will continue until there is strict enforcement of ban at the national level.

Indian Law on Ship Dismantling

By 1979, ship breaking became a prominent industry in India with the Government of India declaring it as a manufacturing industry. Presently, it has the same status under the Central Excise and the Sales Tax Act. The chief locations of ship dismantling are Alang in Gujarat, Sachana in Gujarat, Mumbai in Maharashtra, Tadri in Karnataka, Malpe in Karnataka, Baypore in Kerala, Cochin in Kerala, Azhical in Kerala, Valinokan in Tamil Nadu, Vizag in Andhra Pradesh and Calcutta in West Bengal.

⁶⁵ See, http://www.ban.org/ban_news/2011/110310_epa_allows_scheme_to_dump.html., last accessed in June 2013

⁶⁶ For details see, Office Memorandum, MOEF, dated 9th November 2009, Available at http://moef.nic.in/downloads/public-information/Office%20Memorandum_ship.pdf, last accessed in June 2013

India is a party to the Basel Convention⁶⁷. Hence, India is obliged to control the import and export of hazardous wastes, regulate its disposal and to conduct its recycling in an environmentally sound manner.

At present, India is not having a specific law on international waste shipment. When it comes to ship breaking, jurisdiction is conferred on multiple authorities under various laws⁶⁸. In India, the control of Ship dismantling is done basically by denying access, surveillance and monitoring of illegal vessel trafficking and unauthorized beaching, by means of occupational safety laws, by the regulation of movement and handling of hazardous substances and under the general environmental laws⁶⁹. There are many other notified

⁶⁷ The convention was signed by India on 15th March 1990 and ratified on 24th June 1992

⁶⁸ The authorities in control are the State Maritime Board; the State Pollution Control Board; the Directorate General of Shipping, Government of India; Directorate General, Factory Advice & Labor Institute, Ministry of Labour, Government of India; Department of Industrial Policy & Promotion (Explosives Section), Ministry of Commerce & Industry; the Ministry of Environment & Forests; Central Pollution Control Board. Other stakeholders involved are the Iron Steel Scrap and Ship Breakers Association of India, Ship Recycling Industries Association (India) and a number of other concerned agencies.

⁶⁹ The following legislations have application in control of ship dismantling and pollution from it. They are as follows: the Maritime Zones Act 1976; the Coast Guard Act 1978; the Customs Act 1962; the Central Excise Rules (chapter 15); the Income Tax Act 1961; the Occupational Hazards and Safety Act 1989; the Manufacture, Storage and Import of Hazardous Chemicals(MSIHC) Rules 1989; the Hazardous Waste Rules, 2002; the Atomic Energy Act 1962; the Gujarat State Maritime Board Act 1981; the Petroleum Act, 1934; the Petroleum Rules, 2002; the Factories Act, 1948 and the corresponding State Factories Rules; the Water Pollution (Prevention and Control) Act, 1974; the Gas Cylinder Rules, 2004; the Air (Prevention and Control of Pollution) Act, 1981; the Coastal Regulation Zone Notification, 1991; the Merchant Shipping Act 1958, the Pressure Vessels Rules, 1981; the Static and Mobile pressure Vessels (unfired) Rules, 1981; the Explosive Act, 1884 and the Explosive Rules, 2008; the Hazardous Wastes (Management, Handling and Trans boundary Movement))

applicable Acts and rules of the state governments for ship recycling from time to time.

Environmental Guidelines for Shipbreaking Industries

The guidelines were issued by the Central Pollution Control Board. The guidelines aims to minimize the effects of ship breaking industries to surrounding environment through proper siting of industries and by preparing and implementing an environmental compliance plan and disaster management plan . The customs or state maritime boards should ensure that all ships bound for recycling are devoid of any toxic substances beyond the permissible limits as listed in the Basel Convention. The state pollution control board should not issue clearance for breaking unless the ship complies with relevant provisions under the Environmental Protection Act, 1986.

The siting of ship breaking industry should be strictly in accordance with the Coastal Regulation Zone Notification, 1991. No such recycling or breaking yards may be permitted at ecologically fragile areas or near to national parks, coral reefs, mangrove swamps. The offshore and onshore activities during ship breaking may necessarily be in accordance with the CRZ rules.

The guidelines also provides for prior consent from State Pollution Control Board which can issue clearance for breaking only if the vessel complies with provisions and rules pertaining to the Environmental Protection Act, 1986, the Air Act, 1981 and the Water Act, 1974.

The guidelines suggest the provisions to be listed in ECP and the measures that have to be adopted by the recycler to minimize water pollution, air pollution, noise pollution, solid waste management, treatment and disposal

Rules, 2008; the Environment (Protection) Act, 1986; the various Regulations and Rules framed under these Acts; the State Maritime Boards Act and the Gujarat Maritime Board Ship Recycling Regulations, 2003

of oil, oil sludge, toxic and other dangerous chemicals. It also provides for operational parameters of incinerators and emission standards.

The guidelines authorizes the implementation of the EMP with the state pollution control board in association with the concerned authorities such as the port trust, state maritime board within whose jurisdictional area the recycling yard is situated or the vessel lies. The concerned authorities should have a full-fledged environment management division, whose duty is to monitor, conduct studies on environmental impacts of ship breaking in the area and report to the top management. Regular reports on inspections should be submitted to the relevant bodies.

Handling and Management of Hazardous Wastes

The Hazardous Wastes (Management & Handling) Rules was amended in 1989, 2000 and 2003. Under the amended rules, all hazardous wastes are required to be treated and disposed of in the manner prescribed. In the absence of common disposal facilities in the country, permission has been granted to the hazardous waste generating units in the small scale sector, for storing their wastes temporarily in a secure, lined pit or facility within their premises. During the tenth plan period it has been decided to focus on the setting up of common treatment, storage and disposal facilities in different parts of the country. While support would be provided for setting up two such common facilities in major hazardous waste generating states, one facility might be supported in other states. Consequent to the notification of Hazardous Waste (Management & Handling) Amendment Rules, 2003, the registration scheme, being implemented by the ministry has been transferred to the central pollution control board⁷⁰.

The Batteries (Management & Handling) Rules, 2001

The rule was notified in May, 2001 to regulate the collection, channelization and recycling as well as import of used lead acid batteries in

⁷⁰ For the list of recyclers, *See*, <http://www.cpcb.nic.in>; last visited in June 2013

India. These rules inter-alia make it mandatory for consumers to return used batteries. All manufacturers, assemblers, reconditioners and importers of lead acid batteries are responsible for collecting used batteries against new ones sold as per a schedule defined in the rules. Such used lead acid batteries can be auctioned or sold only to recyclers registered with the Ministry on the basis of their possessing environmentally sound facilities for recycling or recovery.

Gujarat Ship Recycling Regulations

In exercise of the powers conferred under the Gujarat Maritime Board Act, 1981⁷¹, the Gujarat Maritime Board had enacted the Ship Recycling Regulations, 2006.

The Regulations provides for prior consent from the Gujarat State Maritime Board before the vessel is entering the recycling yard. It provides for adoption of modern technology in ship dismantling. The reception, treatment, storage and disposal facilities in the recycling yards should comply with the requirements of the Basel Convention, 1989, the EPA, 1986, the Hazardous Wastes (M &H) Rules, 2003, the Air Act, 1981 and the Water Act, 1974.

Draft Code on Regulation for Safe and Environmentally Sound Ship Recycling

The Ministry of Steel, Government of India has issued a draft code on regulation for safe and environmentally sound ship recycling⁷². The code was issued in response to the Supreme Court of India's directions to the high level expert committee in *Research Foundation for Science Technology and Natural Resource Policy v. Union of India*⁷³ and also taking into consideration the recommendations of the technical expert committee. Under the Government of

⁷¹ The Gujarat Maritime Board Act, 1981, ss. 37, 38, 39, 41 and 110

⁷² See, <http://steel.nic.in/shipbreaking/ship%20recycling%20code.pdf>, last visited in June 2013

⁷³ A.I.R 2007 SC 3118

India (Allocation of Business) Rules, 1961, the Ministry of Steel is responsible for the implementation of the Code of Regulations.

The code classifies ships imported for dismantling into two categories namely, ships of special concern and that of general concern. Ships of special concern are those carrying very huge quantity of hazardous wastes such as asbestos containing materials, polychlorinated biphenyls and radioactive wastes. They are highly toxic vessels. It is also very difficult to beach them. Since they are complex steel structures, it is tough to cut them manually and this involves safety hazards.

The import and export of ships for dismantling will be based on the import-export policy of the Government of India⁷⁴. The code is applicable to all recycling activities in India, despite the types of ships, except ships defined as wreck under the Merchant Shipping Act, 1958. The code does not oust the jurisdiction of various authorities prescribed under other Acts, as and when applicable to the recycling activities.

Requirement of Prior Information

All ships entering Indian waters for dismantling have to give prior information to the Maritime Rescue Coordination Centre⁷⁵. When the vessel enters the Indian Search and Rescue Region⁷⁶, it has to inform the port authorities and the Indian Coast Guard that it is destined to the recycling yard for dismantling.

The ship owner or recycler should submit all information regarding the vessel for dismantling to the port authorities, state maritime board, state

⁷⁴ Presently, the import of vessels for dismantling is based upon Open General License, under Tariff item: 89.08, issued by Department of Revenue of the Ministry of Finance in consultation with World Customs Organization vide circular No.37/96 dated 3rd July, 1996

⁷⁵ Herein after to be referred to as the MRCC

⁷⁶ Here in after to be referred to as the ISRR

pollution control board and customs department and pay port charges for getting entry into the port⁷⁷.

After verification of certificates by the port authority, state maritime board, state pollution control board and customs, a decision will be taken on permission for anchorage of the ships by the port authority or the state maritime board as the case may be. In case, permission is refused by any one of these three agencies, the ship owner may appeal before the designated appellate authorities.

Legal Control of Beaching and Dismantling

After getting the permission for anchorage, next is the beaching process. For beaching, special permission should be obtained from port authorities and the state maritime board. At anchorage, the vessel will be physically inspected by numerous agencies. For ships of special concern, beaching clearance has to be obtained from the customs, state pollution control board, state maritime board and the concerned port authority. For ships other than cargo vessels and tankers, Directorate of Industrial Safety and Health may conduct inspections and issues the 'gas-free-for-hot-work certificate'. In the case of petroleum oil cargo tankers and petroleum slope tankers, the explosives department will conduct inspections for ensuring 'gas free and fit for hot' work conditions.

For war ships, naval ships, nuclear powered vessels and large passenger ships, the Atomic Energy Regulatory Board may conduct physical inspection and accord their clearances for beaching.

Before beaching, all ships of general concern should necessarily get the clearance from the port authority, state maritime board and customs authorities.

⁷⁷ The Draft Code on Ship Recycling, Item No. 3.3.2 details on the information as to registration, ownership, nationality of the master and crew, tonnage and safety certificates, certificates as to no-encumbrances or charges on the vessel.

In addition to this, ship owner or recycler has to submit the inventory of hazardous substances on board and all other relevant information to the state pollution control board for their no-objection certificate.

The ship owner or recycler should also submit a ship recycling facility management plan to the state maritime board and get its approval before the actual recycling takes place. They may also submit an undertaking on necessary precautions that have been taken to meet unforeseen emergencies. In the absence of these documents, the port authority or the state maritime board may not approve the recycling process.

Ship Specific Recycling Plan

Once the ship recycling facility management plan is approved by the state maritime board or the port authority for the plot once in five years, the ship recycler would be required to submit application along with the ship specific recycling plan⁷⁸. The SSRP includes Safety Management Plan and Environmental Compliance Plan⁷⁹. The ECP should be in tune with various laws⁸⁰. The SSRP should state specific plan for safe removal of Hazardous wastes⁸¹. The SPCB may conduct regular inspections to ensure air quality, soil quality, sediment and marine water quality within ten kilometer radius of the recycling yards. It is the responsibility of the State Maritime Board and Port authority to conduct inspections at least once in two years to ensure “zero accidents” and “zero waste”.

⁷⁸ Herein after to be referred to as the SSRP

⁷⁹ Herein after to be referred to as the ECP

⁸⁰ Draft Code, Item 6.4 states that the ECP should be complying with the safety and pollution control specification as specified under the Water Act, 1974, the Air Act, 1981, the Hazardous Wastes (Management & Handling) Rules, 1989, Environmental Impact Assessment and Coastal Regulation Zone notifications, 2011

⁸¹ *Id.*, Item No.6.5

The SSRP may also state provisions for solid waste management⁸². The recycler may be given permission under the Hazardous Wastes (Management Handling and Trans-boundary Movement) Rules, 2008, only if they have provisions for handling and disposal of the waste in an environmentally sound manner.

The ship recycler is obliged to follow the stipulations as per the relevant laws⁸³. The recycler should not throw directly into the sea any waste generated during the process of recycling but should collect and dispose it through the proper storage facility licensed inside the yard. In the process of waste disposal, the recycler should strictly adhere to the stipulations issued by the state pollution control board. The ship recycler should sprinkle salt water daily at the yard to minimize dust generation⁸⁴. In case of any oil escape into the sea water, the recycler should inform the coast guard immediately and should always act in accordance with the National Oil Spill Disaster Contingency Plan developed by the Indian Coast Guard.

The code also provides penalty for willful defaulters. An appeal from the actions of port authority to the state government is also provided.

⁸² *Id.*, Item no. 6.7

⁸³ *Supra* n. 80

⁸⁴ *See* the report in the Times of India by Madhavi Rajadhyaksha, June 4, 2011. It states, “Ship breaking is proved to generate toxic heavy metals, such as asbestos fibres, being thrown into the air, which exposes not just workers but those in the neighbourhood to hazards. The International Maritime Organization has identified risks associated with shipbreaking, which include the generation of lead particles, fire hazards and dispersal of metal particulates. Private firms rent space from the Mumbai Port Trust to break ships at Darukhana. Every day, more than 6,000 workers brave occupational hazards to dismantle ships, sort scrap and package it away. There are issues related to contamination of an area around ship-breaking yards which have not been addressed in Mumbai as they have been in Alang (Gujarat).

Thus, ship breaking in India is regulated at three stages. The ship breaker will have to book the vessel for breaking at a particular yard by depositing 10% of the ship's value as earnest deposit. This happens before anchorage at the breaking yard.

On reaching the Arabian Sea, the vessel is anchored outside the territorial waters off the recycling yard. After getting the clearances, the vessel waits for the next high-tide to propel it with the maximum speed to beach on to the coasts of the recycling plot⁸⁵. Thereafter, the traditional method of decontaminating the vessel begins by drilling holes on to the shells and allowing sea water to clean the oil contaminated tanks at high tides. And then, the ship is manually torn down by the ship breaker.

During demolition, the vessel is supposed to be inspected several times by the state maritime board officials, especially when there are accidents and environmental mishaps. Inspectors authorized under the Factories Act, 1948 and the Occupational Safety laws are also required to make timely inspections to ensure occupational safety and health of workers involved in demolition.

Thus, under the existing regime, it is highly cumbersome to get clearances for entry, beaching and the recycling.

Indian Enforcement Regime on Control of Ship Recycling

The Ministry of Environment and Forests⁸⁶ is the pivotal agency to decide on all matters of environment in India. As a nodal agency, the Ministry has the responsibility to implement all environmental policies of the

⁸⁵ In other ship breaking countries, the ship does not come up to the yard. It is tightened on the sea bed and the pieces are pulled to the yard. Lightening of the ship on the sea bed is dangerous as far as oil pollution is concerned in case of tankers. Therefore, Beaching method in ship breaking is preferred as it is most economical and practical. The technology sophistication to minimize hazards on the coasts is provided.

⁸⁶ Herein after to be the MoEF

government and to co- ordinate functioning of other ministries and departments for environmental protection.

The picture of the Indian enforcement regime relating to ship breaking is extremely convoluted. For example, all imported goods have to get the customs clearance which is coming under the Ministry of Finance. The imports and exports are regulated by the Director General of Foreign Trade and the Director General of Commercial Intelligence, who are under the Ministry of Commerce. The vessel for dismantling is coming under the definition of a “vessel” for many purposes. Hence, the Ministry of Surface Transport⁸⁷ and the Department of Shipping comprising the authorities like the Director General Shipping, port authorities and the state maritime board⁸⁸ have a major role in safety and environmental issues and framing of policies. The issues pertaining to labour and industrial policies, occupational health hazards, compensation for death and accidents falls directly under the control of Ministry of Labour. The Ministry of Water Resources is involved when there is pollution of ground or surface water. The Ministry of Health has a say in toxicological effects of ship breaking and the research activities are carried out under the Indian Council of Medical Research and the Council of Scientific and Industrial Research. When there is oil pollution, the Ministry of Petroleum and Natural Gas is involved. Regarding the transport and disposal of batteries and other wastes, the Ministries of Railways, Surface Transport and Defence need to be consulted. On matters of law, implementation of legislation, rules and regulations at the state level, the Ministry of Law plays a prominent role.

⁸⁷ Herein after to be referred to as the MoST

⁸⁸ The Gujarat State Maritime Board Act, 1981, s.83 reads, “Powers of the Board under the Act shall apply to the works which may be executed by the Board as the Conservator of the port or as the body appointed under sub-section (1) of section 36 of the Indian Ports Act, 1908 and also to the sanction of such works, the estimate therefor and the expenditure thereunder.”

In addition to this, the Coast Guard, Navy and other defence agencies are also involved to combat the adverse effects of pollution from ship breaking and to overcome major disasters. Routine training sessions are offered by these agencies to all stake holders of ship breaking on disaster management.

Approaches of Indian Judiciary towards Control of Ship Scrapping

The Supreme Court of India had given two landmark decisions in the matter relating to import of hazardous waste in India.

The *Clemenceau* case is an important decision in this regard⁸⁹. The *Clemenceau* was a French warship. At the time of phase out, it had 130 tons of asbestos and other toxic wastes⁹⁰. The vessel did not comply with the provisions of Basel Convention and was denied entry to many ports. In December 2005, it left for Alang for ship breaking. The Supreme Court of India issued a temporary order prohibiting the vessel's entry to Alang port. Thereafter, the Apex court vide interim orders had directed the central government, the Central Pollution Control Board, the State Pollution Control Board, the State Maritime Board, port authorities, research organization and all stake holders of the industry to submit reports on efforts taken to minimize pollution effects and implementing guidelines on safe and pollution free ship scrapping.

Accordingly, on 5th May 1997, the Supreme Court had directed that,

“no authorization or permission would be given by any authority for the import of hazardous waste items which have already been banned by the Central Government or by any order made by any Court or any other authority and no import would be made or permitted by any authority or any person, of any hazardous waste which

⁸⁹ *Research Foundation for Science v. Union of India*, 2005 (10) S.C.C 510

⁹⁰ The green peace fact sheet, *See*, www.greenpeace.org, last accessed in March 2014

is already banned under the Basel Convention or to be banned hereafter with effect from the dates specified therein”.

On October 14, 2003, the Supreme Court gave an elaborate and all-embracing judgment:

“The ratification of Basel Convention by India shows the commitment of our country to solve the problem... The decision stated to have been taken by 65 conference parties by consensus to ban all exports of hazardous wastes from Organisation for Economic Co-operation and Development (OECD) to non-OECD countries immediately for disposal and in the beginning of the year 1998 for recycling are, therefore, required to be kept in view while considering the number of items to be banned.”

The Supreme Court order dated 14th October 2003 gave number of directions for amending the Hazardous Waste Rules 1989, the Major Port Trust Act, 1963, the Customs Act, 1962, the Foreign Trade (Development & Regulation) Act, 1992 based on recommendations of the High Powered Committee on Hazardous Wastes. The committee had given recommendations after examining,

“To what extent the hazardous wastes listed in Basel Convention have been banned by the Government and to examine which other hazardous wastes, other than Listed in Basel Convention and Hazardous Wastes (Management and Handling) Rules, 1989, require banning.”

In this order, the Apex Court had observed that in order to attain sustainable development, it is equally significant to ensure environmental

protection and developmental process could not be done in isolation without regard to environmental protection.

With respect to ship breaking, the court did not ask to end it but it should be properly and strictly regulated. Gujarat is the major state involved in ship breaking activities. Therefore, the court called upon the Gujarat Maritime Board and the Gujarat State Pollution Control Board to monitor and regulate the activity properly.

The Court accepted the recommendations of the High Power Committee on Ship Breaking. The court stressed on the primary requirements before commencing the recycling process in Indian yard. There should be prior decontamination before importing of the vessel. Information should be passed on to the authorities much before the arrival of the vessel in ports as specified under applicable laws. There should be safe and environmentally sound disposal of wastes through proper licensed agencies within the port area. The authorization from the state pollution control board and the state maritime board should be obtained before starting the recycling process. The authorities should properly monitor the activities of the recycling agencies at various levels and stages. The unauthorized recycling yards should be closed down. Timely report should be filed with the court. Inventories should be properly maintained. India should enter into international participation to achieve the goals of Basel Convention.

The Supreme Court verdict on the *Clemenceau case* is significant for being progressive and pro-environmental. The court had expressed a strong view to strike a balance between economic development and environmental protection. It was held that, 'in order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it'. The court also reiterated the 'precautionary principle' by stating that, 'the ship breaking operation cannot be permitted to be continued without strictly adhering to all

precautionary principles'. The court mandated the fulfillment of the Basel convention before the vessel is being traded to India. Accordingly, it was held that the vessel was to be first decontaminated. The consent of Gujarat Maritime Board is mandatory for entry to Alang.

The Blue Lady Case is another important decision in this connection⁹¹.

The major issue in question in this case was whether Alang had technological sophistication for safe ship dismantling. The High Level Expert Committee, appointed by the Apex Court had detailed in its report the catastrophic environmental impacts of the ship recycling industry on the coastal environment and health hazards it might cause to the local population. The committee expressed the view that Alang never had the technology sophistication to dismantle vessels in an eco-friendly manner. It had also detailed immense potential of the industry to boost up the economy of the nation. Surprisingly, the apex court ordered for dismantling of vessel at Alang.

Interestingly, the apex court applied a new dimension to 'sustainable development'; the proportionality principle. Explaining the concept, the court quoted the judgment in *T.N.Godavarman Thirumulpad v. Union of India*⁹². According to court, sustainable development also means balancing 'the priorities of economic development and environmental protection'. The court mentioned in its judgment about the economic prospects of giving employment to 700 workmen and generation of 41000TMT steel during the recycling of Blue lady. If properly regulated, the ship breaking industry can complement India's share in global trade.

This verdict of the court is far away from the fundamentals of environmental justice. The court had completely relied on the expert committee report but never took into consideration its comments on the hazards linked

⁹¹ See, *Research Foundation for Science Technology and Natural Resource Policy v. Union of India*, A.I.R 2007 SC 3118

⁹² (2002) 10 S.C.C 606, Para 35

with ship breaking. The court had watered down the concept of sustainable development by the application of the theory of proportionality. It was a sweet compromise of environmental justice for economic growth.

The Supreme Court of India had clearly laid down the law of sustainable development in *Vellore Citizens' Welfare Forum v. Union of India*⁹³. The Apex court after analyzing various international conventions and the concept of sustainable development had held that 'the polluter pays' and 'precautionary' principles are part of customary international law and well adopted into our domestic system vide Articles 21, 48A and 51 A (g) of the Constitution. Therefore, the concept of sustainable development is a complimenting feature of environmental freedom. In *A.P. Pollution Control Board v. Prof. M.V. Nayudu*⁹⁴, the Apex court had referred to Article 7 of the draft approved by the Working Group of the International Law Commission in 1996 on "Prevention of Trans boundary Damage from Hazardous Activities" to include the need for the State to take necessary 'legislative, administrative and other actions' to implement the duty of prevention of environmental harm. Therefore, our government has a legal and constitutional obligation to safeguard the interests of the nation, its people and to maintain friendly relations with international community. It has to strike a balance between economy and coastal environment. Thus, the Indian law on international waste shipment is not comprehensive. This has made the courts rely generally on principles of sustainable development under the Constitution of India, economic policies of the country and international law. Often this has produced conflicting decisions.

Conclusions

When analyzing the Indian standards on control of ship breaking it is understood that the problem is not with inadequacy of legislation but

⁹³ 2004 (12) S.C.C 118

⁹⁴ A.I.R 1999 SC 812

multiplicity of laws conferring jurisdiction on more than a dozen bureaucratic instruments and institutions. A ship breaker has to obtain numerous clearance certificates⁹⁵ before entering the recycling facility and also during demolition. Thus, multiple jurisdictional regimes⁹⁶ make the clearance procedure extremely cumbersome for the ship breakers. Therefore, they resort to illegal methods for conducting the ship breaking activity.

Inter-ministerial consultation should be effective for proper enforcement of rules and regulations. At present more than half a dozen ministries are involved with matters pertaining to giving of licenses for ship breaking and issuance of clearance certificates. The Ministry of Forest and Environment as a nodal institution can do a lot more by calling for reports from other ministries and various departments towards control of ship breaking. Since the jurisdiction of various authorities under different Acts cannot be ousted, the practical solution is to co-ordinate the clearance activities under a comprehensive system. The comprehensive system should have the State Maritime Board as the apex institution to conduct inspections, coordinating different departments under various ministries. This could definitely strengthen the enforcement regime and make the port clearance formalities handy and efficacious.

In India, not many states have constituted maritime boards or enacted legislation for controlling pollution in ports from ship dismantling. The Gujarat

⁹⁵ The certificates include Cargo Free Certificate, Decontamination Certificate, Atomic Radiation Free Certificate, Gas Free for Man Entry, Gas Free for Hot Work, Naked Light Certificate, Waste Disposal under Hazardous Materials and Waste Rules, Labour Insurance Certificate, Factory Inspector Certificate, Beaching Permission

⁹⁶ The Customs Department, the State Pollution Control Board, the Department of Explosives, the State Factories and Labour Commission, the Atomic Energy and Radiation Board, the Department of Inspection, the State Maritime Board, the Inter-Ministerial Committee

State Maritime Board's Ship Recycling Regulations, 2006⁹⁷ is the only legislative effort in this regard. The scrapping industry can be very well regulated through quality monitoring, inspections, reporting and prosecutions at national level. The state maritime boards, port authorities and state pollution control boards are expected to conduct periodic investigations, call for information from the recycling yards and submit timely reports to the state governments. If they were to do this job properly, hardly there been any issue of illegal scrapping across the shores of India. As such in the existing regime, there is ample space for red-tapism and administrative bottlenecks to block safe and environmentally sound dismantling of ships.

Trade and environment may not be conflicting. These elements should actually complement each other. The regulatory regime should try to bring in harmony between these two paramount concepts. The laws of any country are a clear depiction of its governmental policies. Unfortunately, India is blindly adopting the Euro-American trade and maritime policy without taking into consideration the decline of these economies in the recent past. India needs a policy that brings in equilibrium between trade and environment. Our export – import policy should follow a holistic approach when dealing with import of hazardous substances. Already, the draft maritime policy gives thrust for environmentally sound ship dismantling. By implementing this policy through proper legislation and detailed guidelines India can enrich its economy without comprising health and safety of its citizens.

⁹⁷ Gujarat is the major state involved in ship recycling in India. The Maritime Board was created under the Gujarat Maritime Board Act 1981. The Board has formulated the Ship Recycling Regulations, 2006. The regulations insist strict compliance of Basel Convention. The Gujarat Maritime Board has created a "Treatment, Storage and Disposal Facility" (TSDF) which is authorized by the Gujarat Pollution Control Board under the Hazardous Waste(Management & Handling) Rules vide GPCB/HAZBHV-C-28/05/12431 dated 13th May-2005. This plan was implemented following the Honourable Supreme Court's decision in the *Clemenceau Case*

In order to tackle the present legal crisis, there should be co-ordination and co-operation at national and international levels. International law on waste shipment should clearly design the obligations of flag state, reception state, port state, ship owners and all other stake holders of the industry. Tracking of illegal vessel trafficking is very important. This can be achieved only by sharing of information between the flag states and recipient states. The international law on ship registration should provide ample guidelines for the national system to enact laws that would make the original owners accountable in pollution cases and would also curb fake ownership. Tracking of unseaworthy vessels being imported to India may be of utmost concern for the authorities in respect of subsequent process of ship dismantling.

On April 19, 2005, the Danish ship Kong Fredrik IX was allowed to beach at Alang with falsified papers in the fake name, 'Riky'. The vessel was not decontaminated and there was a strict violation of the Basel Convention. High level investigations were ordered by the Chairman of the Supreme Court Monitoring Committee on Hazardous wastes and orders were given to the Gujarat Pollution Control Board to mercilessly drive Riky out of Indian territorial waters. The Supreme Court Monitoring Committee had pointed out that "if the exporting country considers an end-of-life of a vessel as hazardous, so must the importing country"⁹⁸.

Green peace activists were also on board the 'Encounter Bay', raising protests against its illegal beaching in India. The ship owners had sold seven toxic ships for demolition in India, including two sister ships of Encounter Bay⁹⁹.

⁹⁸ See, <http://www.greenpeace.org/india/en/news/toxic-ship-riky-to-be-merci/>, last visited in June 2013

⁹⁹ See, <http://www.greenpeace.org/india/en/news/stop-dumping-toxic-wastes/>, last visited in June 2013. The website also hosts press releases on protests over beaching of toxic vessels at Alang from OECD countries such as the U.K, the U.S.A, Germany, France, Holland and Denmark in clear violation of Basel Convention requirements

Absolute obligation should be laid on the flag states to decontaminate the vessel before exporting to developing countries. They should strictly enforce the 'inventory' requirement and prior informed consent procedure. Laws governing the design, manning, construction and equipment of vessels should promote adoption of eco-friendly technology and use of non-hazardous materials in ship building.

The international law on ship recycling is still in its infancy. Apart from the IMO Guidelines and several NGO efforts¹⁰⁰, which are mainly recommendations, a vacuum is created by the absence of a legally binding instrument.

The Hong Kong Convention is already under high criticisms for its too much technicality. The convention *albeit* having many provisions for recycling in an eco-friendly manner is all bark and no bite in terms of strict enforcement measures. Also, the ambiguity regarding many provisions can add on to the dilemma of national administrations making the implementation of its provisions difficult in the domestic system. The convention legitimizes beaching process whereas beaching is not at all advisable, taking into account the technological crudeness in South Asia. The greatest draw back of the convention is that it does not implement total ban of export of toxic wastes from developed to developing countries. Hence, in the existing circumstances, it cannot replace the Basel Convention in terms of strict enforcement. The Basel Ban once implemented may totally ban the export of toxic ships to developing countries. The actual success of the enforcement regime under the SRC would depend upon the economic circumstances and the diligence shown by states in strict enforcement measures.

Often, vessels exported for scrapping to developing countries do not comply with the Basel Convention requirements on decontamination. There exist ample loop holes in the current enforcement regime where ship owners can escape

¹⁰⁰ Best recycling practices are adopted by the International Chamber of Commerce and Association of Baltic countries

from the liability by transferring the vessel in ‘fake names’. These intermediate buyers are non-accountable and would have deposited 10-15% of the value of ship in an Escrow Account. Therefore, the owners may sink the ship and sue for insurance costs, if some objections are raised by the authorities of the recycling state.

The authorities of the receiving state may help the recycling facility to achieve technology sophistication as per the international specifications. India need to explore the chances of regional or sub-regional co-operations for establishing training centres and technology transfers regarding the management of hazardous wastes and the minimization of environmental impacts from ship recycling. Yet another option is to recycle the hazardous vessels in the country of its origin, rather than exporting it to global commons. This movement has already been kicked off in the United States¹⁰¹.

There is nothing wrong in being pro-economic but it is equally pertinent to regulate the hazardous industries properly. Otherwise, a comprehensive control regime should be established. In India, the lethargic legislative reforms have enabled law evaders to pull the wool over the eyes of administration and to conduct million dollar businesses along the shores of the country.

¹⁰¹ See, <http://www.ban.org/2011/11/08/exxon-mobil-creates-green-u-s-recycling-jobs/>., which states, “Instead of sending their defunct tankers to the in-famous ship scrapping beaches of South Asia, Exxon Mobil, a wholly owned subsidiary of Sea River Maritime, recently completed the sale of S/R Wilmington, a 1984 built tanker to a U.S. Ship recycling facility”, last accessed in June 2013

CONCLUSIONS AND SUGGESTIONS

Ports are the gateways to international trade. The economy of a country like India, which is an emerging maritime country will be in jeopardy if, proper care is not exercised for its conservation. Increased trade not only increases vessel traffic and revenue, but also has a drastic effect on Indian ports due to vessel sourced pollution in various forms. The Indian government has a legal and constitutional obligation to safeguard the interests of the nation, its people and to maintain friendly relations with international community. The policies of the government should strike a balance between the economic interests and preservation of the coastal ecosystem. In order to achieve this objective there should be strong legal back up. The present study is focused on the Indian law on control of vessel sourced pollution in maritime ports. It also analyses how effective are the Indian standards of control on vessel sourced pollution and whether it is comparable with the International Maritime Organization's vision of clean ports. Analysis is done also to find out whether the Indian law facilitates maritime trade or not. This is because the maritime trade prospects of the country depend on its clean and efficient ports.

Regulating access to ports is identified as a successful state practice to prevent vessel sourced pollution in ports. The coastal state's right to deny access to substandard and unseaworthy vessels is well recognized both under the customary and conventional international law. A vessel in port is under the temporary sovereignty of the coastal state. It is the discretion of the coastal state whether to exercise jurisdiction over vessels in its ports. Generally, coastal states will not exercise port state jurisdiction over polluting vessels unless the incident has its effects on the coasts. In the international scenario, there is a growing concern among coastal states for the protection and

preservation of coastal environment. States have started to extend their jurisdiction over foreign vessels irrespective of the place of occurrence of pollution based up on the 'effects doctrine'. The nature and scope of the 'effects doctrine' is well established in advanced maritime countries by means of legislations and judicial interpretations.

This huge power is vested with Indian port authorities by means of the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976. The Government of India under a notification had declared waters within the baseline, around the Indian coastal line, including the Lakshadweep and Andaman and Nicobar islands as "internal waters"¹. The Ministry of Shipping in another notification had renamed the zone as "inland waters" thereby extending the provisions of the Inland Vessels Act, 1917 and the provisions of Merchant Shipping Act, 1958 to the same zone². The Constitution of India permits extraterritorial application of laws, if a reasonable nexus is established between the subject matter of the law and the Indian coast³.

Despite this wide power to restrict the entry of polluting vessels, many substandard ships finds easy access to Indian ports and navigates freely through the territorial waters of the country. A prominent reason is that the Maritime Zones Act, 1976 and the rules thereunder set no clear criteria for denying access. Hence, what constitutes a threat to peace, good order or security of India is often a political consideration rather than a question of law. This legal crisis has weakened India's port state enforcement. It encourages the practice of dumping into Indian ports 'ghost ships' of the western countries for dismantling. Many of these ships find unwarranted entry into Indian ports violating all international

¹ The Ministry of External Affairs, Government of India, Notification No. SO 1197 (E) , dated 1st September 2009 on baseline system in India

² The Ministry of Shipping, Government of India, D.G. Shipping Order No. 19, 2013, dated 16th September 2013

³ The Constitution of India, art. 245(2)

norms for safe recycling of ships. This is an area where there exists a clear legal lacuna. India needs stringent legislation to restrict the entry of toxic ships. India should permit recycling only under the precautions set by international conventions. The Indian law on safe ship recycling is in its infancy. This situation has also produced conflicting judicial approaches on whether to order for or against the entry of ships into ports; also on how to balance the priorities of economic development and environmental protection.

The Maritime Policy of India aims for sustainable development of the shipping industry. This aim could be achieved only by means of strong port state enforcement. Today, India's port state jurisdiction is not well supported by the legal system. The major reason is that the 'admiralty law in India is still a grey area of jurisprudence'. The Indian law on admiralty is not in pace with the dynamic requirements of the shipping industry. Unless, the admiralty law is consolidated and well defined, India's port state jurisdiction will not be effective and in tune with the international regime.

The High Courts in India are exercising admiralty jurisdiction by virtue of the colonial legislation, the Admiralty Jurisdiction Act, 1860, and the decision in the *M.V. Elisabeth's* case. In India, under the Admiralty Jurisdiction Act, 1860, an action for claim can be brought '*in personam or in rem*'⁴. In this way, the claimant can proceed either against the ship involved in case or against the owner. Literally, the Indian law is in tune with the law in other maritime countries. The major deficiency is the absence of clear supporting statutory provisions for enforcing such claims. In India, the usual practice in maritime claims is to obtain an order for the arrest of ship. The owners will provide bank guarantee and the ship sails to the next port of call.

Under the existing law, *in personam* proceedings against the owner are very difficult and impractical. As per the prevailing circumstances, the owner of the foreign ship is most unlikely to be available for prosecution, within the

⁴ The Admiralty Jurisdiction Act, 1861

Indian jurisdiction. Hence, the master can be prosecuted for his physical presence and for the reason that a personal prosecution is more likely to bring home to the master his individual responsibility and thus to make him more careful in future. An issue when prosecuting the master rather than the owner is that, “the fine on the master must be relevant and proportionate to his personal responsibility”, while the fine on the owner can relate to the nature and extent of pollution. In order to impose monetary penalties upon the captain, crew or agents of the ship owner, there should be a proven act or omission committed with an intention to cause such damage, or recklessly with full knowledge that such a damage is the probable result of such acts or omission. The law gives an option to proceed either against the ship or the owner or master. But at the same time, to proceed against the master, it insists on strong evidentiary requirement to prove the willful negligence of the master or crew, causing pollution. In effect, the claimant can proceed only against the ship involved.

Hence, during the *in personam* proceedings, the power of the court is limited, only to hold the master and thereafter imposing fine on him proportionate to his responsibility, thus not placing the owner under direct liability. Unless the owner cannot be made responsible, the entire purpose of compensation regime will be futile. The law does not address this.

The British law on admiralty jurisdiction and liability in maritime claims has undergone radical changes. But in India, the provisions remain the same, in spite of the dynamic changes in shipping operations. A committee appointed by the central government had opined that admiralty jurisdiction in India is out dated and requires a comprehensive legislation, defining the scope of admiralty jurisdiction of the courts⁵. The inadequate provisions in law have actually weakened the civil liability regime. There is increase in criminal prosecutions against seafarers worldwide.

⁵ The Parveen Singh Committee Report, 1986

The Indian law also permits criminal prosecution of seafarers under the provisions of the Merchant Shipping Act, 1958, the Indian Ports Act, 1908, general environmental laws and the Indian Penal Code, 1860. One of the deficiencies identified is that, the sea farer involved in the marine casualty should face double trial-one under the shipping legislation and the other under the ordinary laws and the Indian Penal Code. This has created delay in closing of investigation proceedings on time and there are instances when mariners had to undergo trial for several years. The enquiry under the MSA and the Indian Ports Act are administrative enquiries. Therefore, marine casualties in India face huge investigative delays and nothing is attempted to end the ordeal.

In order to overcome this difficulty, the civil liability regime should be more effective. A possible suggestion is that the law should be having clear provisions to implement the insurance schemes available in pollution incidents. There are a number of voluntary insurance schemes such as the TOVALOP⁶ and compulsory schemes under the Merchant Shipping Act, under which an owner is liable up to a limit for the pollution damage, irrespective of the cargo carried or the place of occurrence. Enforcement against a foreign ship owner is, in fact, no real problem in view of the arrangements which have been made by ship owners' mutual insurance associations to guarantee payment. Hence, there is no need for criminal prosecution of the seafarers for minor spills.

The administrative enforcement against polluting vessels in ports is also based on another colonial legislation, the Indian Ports Act, 1908. Unless, the Indian Ports Act, 1908 is amended to incorporate provisions for ensuring safe and pollution free shipping under various international conventions, India's port state enforcement will remain inefficient.

⁶ The Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution which became effective on October 6, 1971. This is an agreement whereby tanker owners reimburse national governments for damage caused by oil spilt from a tanker up to certain financial limits without proof of negligence. It is understood that over 90 per cent of tanker owners are subscribers to this agreement

The Indian standards of port state control inspections are mediocre and the inspections conducted by the Indian PSCOs are definitely below the target specified under the international law. This has facilitated the hassle free entry of unseaworthy vessels and increased pollution incidents in ports. The port state control should be made an independent arm of the port authority which can solely dedicate its manpower and resources to control and monitor the vessels calling at Indian waters thereby increasing its effectiveness. If the entries of inferior quality ships are not regulated judiciously, it may question the very existence of ports; the trade and economic prospects of the country.

Another reason for weak port state enforcement is identified as the segregation of enforcement powers on various ministries and departments by means of a handful of legislations and also under the Allocation of Business Rules, 1961. The Indian coast guard is empowered to take any action to combat marine pollution in coastal waters but the enforcement powers of the coast guard are not clearly defined under the Indian Coast Guard Act, 1978. The issue of overlapping jurisdiction among the customs, police, coast guards and port authorities should be eliminated by clearly defining the role and hierarchy of enforcement agencies and by streamlining their activities under a central agency, preferably the Indian Coast Guard. In this way, the surveillance and monitoring of unseaworthy ships can be made very effective and substandard shipping operations can be eliminated from the Indian ports.

Oil is identified as the most important source of vessel sourced pollution. When it comes to operational discharges, oil pollution always arouses public outrages and media attention because of its visible impacts on the coastal environment⁷. It is estimated that about seventy five per cent of oil released into

⁷ Paul S. Dempsey, "Compliance and Enforcement in Environmental Law? Oil Pollution of the Marine Environment by Ocean Vessels", 6 *New York Journal of International Law & Business* 467 (1984)

the oceans by vessels is during routine operations⁸. The International Maritime Organization prescribes technical specifications for the construction, design, equipment and manning of ships. It also specifies regulations and guidelines on oil pollution preparedness, response and co-operation and establishes the Fund regime for the compensation of pollution victims.

The control exerted by the International Maritime Organization under the MARPOL regime is proactive; yet there are incidents of intentional non-compliance by marine fleet who defy procedural requirements thereby causing pollution in foreign ports. The flouting of operational requirements are happening more at the ports of the developing countries like India, where the administration is less alert and the enforcement regimes are of mediocre standards. Bearing in mind India's growing potential as a prominent maritime country and the size and types of vessels anchoring at its ports in huge numbers, it is high time that the administrations should give serious thoughts over potential threats of oil pollution from routine vessel operations.

The study identifies chief sources of operational oil pollution as tank washings, engine effluents, bunkering and cargo spills. The major deficiencies of the international law on control of operational vessel pollution are identified as the weak flag state implementation of the MARPOL provisions, expensive tanker design specifications without any details on technology sharing, inadequate provisions to implement port reception facilities, minimum commitment of crew towards due diligence and maintenance of proper oil record books and ambiguous provisions leaving enough scope for unilateral legislations at the domestic level.

The technical and procedural requirements prescribed by MARPOL Annex I are clearly incorporated under Part XII A of the M.S. Act, 2003. In the recent past, many pollution incidents and maritime casualties have been

⁸ Bill Shaw, "The Global Environment: A Proposal to Eliminate Marine Oil Pollution", *27 Natural Resources Journal* 157 (1987)

reported in Indian ports because of improper cargo operations. The preliminary investigations on the grounding of *M.V. RAK* and *M.V. Asian Forest* had identified that the ships didn't comply with the requirements of the convention and the ports never applied the codes of safe practices as applicable to their different terminals. There was no effective co-ordination between the ship and the port; the "port-ship interface" guidelines were not adhered to. Hence, these incidents prove that operation on board and in ports will have to complement each other by following applicable safety guidelines, codes and rules for the effective implementation of MARPOL Annexes. The blind adoption of international prescriptions without taking into consideration the technical inadequacies of the Indian maritime sector has proved that the enforcement of MARPOL provisions can be very difficult in the country.

In India, waste oil is collected and disposed of from ships by private contractors, who are licensed by pollution control boards. Timely requests have to be given to port authorities, if the ship requires port reception facility. This time interval is different for different ports. Upon receiving such requests, the port may grant these licensees permission to collect sludge and waste oil from the vessel. Private contractors are required to submit bank guarantee and insurance policy for public liability. Permission is granted by the port upon satisfactory compliance of all license documents. The removal of sludge waste and its final disposal also requires further clearance from other authorities like the customs. Therefore, waste removal and allocation of port reception formality is a cumbersome process as such in the Indian ports. Under the existing system, the agent will have to get permission from customs, port and environmental agencies for disposing of the waste oil safely into the shore reception facilities. This slow and tedious process can corrupt the crew to bypass technology specified under the convention making illegal discharges into the coastal waters itself. Very few ports are having port reception facility in India. This is a major constraint for MARPOL compliance.

The system operates through private contractors and unless there are clear rules for monitoring such operations there can be serious deterioration of prescribed standards. Also, it has to be seen where these waste oil collected ultimately reaches and whether the entire process of the recycling is done without causing any harm to the environment. Strict monitoring by the conservator of ports and pollution control boards would minimise the pollution risks during the entire process. The law establishes a pollution control cell for all major ports whose duty is to ensure safe discharge operations but this institution is yet to start functioning. In addition to this, the Conservator of Ports is also conferred with similar powers. Segregation of powers under different officers has made the monitoring and control regime extremely inefficient. A comprehensive work manual set commonly for such contractors setting guidelines, procedures and standards for waste oil disposal may bring better efficiency in the system.

There are reports that the discharge is being carried out in jetties at Mumbai port polluting the areas with grease and oil, making the conditions unsafe and unhealthy for general public. Every port is to have an environmental audit and submit the same to the Ministry of Environment and Forests through port trust authorities. All major ports should also have environmental management plan as per their needs and assess pollution risks in terms of cargo handled at the ports. In India, very few ports are having the environmental management plan and the environmental auditing is not regularly conducted at the ports. As a result, the seriousness of vessel sourced oil pollution issues in ports *albeit* being reported in major scientific studies conducted under the auspices of various organizations are not promptly reported by the port trust to the Ministry of Environment and Forests. In many cases, the information given in the audit reports are found contradictory to the actual scenario.

India's proximity to international trade route and her growing role as an oil importing country suggests urgent need to amend existing laws on

operational pollution by vessels. At present, India does have large number of legislations to combat pollution from illegal discharge of oil, cargo residues and the system is fragmented. The control and monitoring systems under various Acts are not updated with the international regime and are inept to meet extreme contingencies such as a major oil spill.

Often the costs involved in mitigating the effects of oil and other cargo spills cannot be estimated. Hence, it is better to strengthen the control and monitoring systems. India needs a well-organized system with basic competencies, proficiency and authority to deal with extreme contingencies arising out of operational spills. The port authority should be equipped to monitor the implementation of laws meant for combating operational oil pollution in ports.

The introduction of pathogens and alien species through ship's ballast water is considered as an important vessel sourced operational pollution. The contemporary thinking links marine pollution and human health hazards created by it. It is identified that like in many other parts of the world, the awareness on this crucial environmental issue is minimal or non-existent among various stakeholders of the industry⁹. Scientific research in India on bio pollutions of the sea is still in the budding stage, which has created complications for the administration in designing a proper regulatory regime¹⁰. As the number of vessels visiting Indian ports increases day by day, the risks associated with bio-invasions also increases¹¹. Even though ballast water discharge from ships is not the sole source of bio-invasions, it is a major

⁹ See, http://www.globallastwaterindia.com/images/shell_brochure.pdf, last visited in June 2013

¹⁰ *Ibid*

¹¹ *Id*, reports that around 5000 ships call annually at the Mumbai port, discharging about two million tonnes of ballast water.

contributor¹². Hence, it is high time that India should legislate exclusively on the topic.

India does not have a direct and comprehensive law to control the harmful effects of bio invasions through ballast water discharges from ships. As a result, many of the environmental issues connected with ballast pollution remain un-addressed in law suits filed before the courts of the country. Yet this does not exempt India from its obligations to enact a comprehensive ocean management law. India is a party to the UNCLOS III and is under obligation to enforce its provisions at domestic level.

Under the existing system, the major difficulty identified is about determining the nature of ballast pollution. There is ambiguity on whether it is a ship sourced operational pollution or a problem of bio diversity or a health hazard in the international law. Hence, the same ambiguity exists in the Indian law.

Even though ship acts only as a vector transporting ballast water that pollute the ports, it can be safely concluded as a form of vessel sourced operational pollution under the scheme of the Law of the Sea Convention, 1982. This is because of the potential harm that ballast causes to the port environment, irrespective of the causal factor. Apart from the general obligation on state parties to control ballast water pollution, the convention does not specify the method of control. Ballast usually contains diluted form of sewage. Hence, the provisions of MARPOL as to safe disposal of sewage are also applicable. But MARPOL is not an effective law to control this form of pollution because ballast pollution has multi-dimensional impact on health and sanitation of the citizens. Hence, the need for Ballast Water Convention, 2004

¹² D.V. Subba Rao, "Comprehensive Review of the Records of the Biota of the Indian Seas and Introduction of Non-indigenous Species", *15Aquatic Conservation: Marine And Freshwater Ecosystems* 117 (2005)

The study identifies that similar problems exist at the domestic level also. Since, India does not have a separate law for controlling ballast pollution it is possible only to consider it as a ship sourced operational pollution. India should go for a comprehensive ballast water management regulation under the scheme of the Merchant Shipping Act, 1958. Under the prevailing system in India, decentralized approaches like those existing in the United States, delegating some powers to make rules under the major legislation is recommended. In this manner, the local enforcement agencies may adopt stringent bye laws setting standards for ballast water exchange and ballast water management plan in accordance with the local concerns and demands.

Both precautionary and curative concepts have equal importance in controlling ballast water pollution. The major legislation should adopt the important precautionary principles set forth in the Ballast Water Convention for all ships visiting Indian ports. Specifications for mid ocean exchange, ballast water exchange, ballast water management plan, performance standards, monitoring and control specifications should be clearly set under the ballast water management regulations. The mid-ocean exchange is a temporary measure and new technologies are coming up to control ballast pollution which the law should be anticipating for the future.

The officer in charge of monitoring the oil record book and for implementing the ballast water management plan should be identified and clearly designated.

The coast guard should be vested with more surveillance powers. Monitoring of vessels beyond the port limits is equally important and this involves high costs and requires sophisticated infrastructural and technology specifications.

Indian ports should provide ballast reception facilities. Liaison officers need to be designated in ports in case of contingencies to make effective

communications on ballast water exchange as between the port officials, ship owner and the master and crew.

Most important is to create awareness about the problems of bio invasion among various stake holders of the industry. This could be done by means of organizing workshops and conferences on the topic.

The problem of ballast water pollution can be controlled effectively by concentrating on better training to the crew, good ship designs on board, co-ordinated efforts to receive ballast in port reception facilities, creating awareness through education campaigns and by strong port state enforcement. The problem of bio invasions has got global implications as it extends beyond boundaries. Therefore, international and regional co-operation is important to control this form of pollution. India should go for a comprehensive law on ballast water pollution as the protection of marine bio diversity and public health are also larger commitments under the ballast water management. The ordinary environmental laws may not be useful for regulating ballast discharges. State practices suggest that this form of pollution is very unique and distinct. It may be controlled to a considerable extent by continuous monitoring and enforcement of proper laws but it cannot be eliminated completely.

The illegal discharge of garbage and sewage from merchant ships offers significant threat to port environment and marine bio-diversity. Often prosecutions are very rare as the exact source of pollution is difficult to identify¹³. Hence, it is important that pollution by ship's sewage and garbage need to be properly controlled. In India, till date, no significant steps have been taken to control ship generated waste. In real practice, licensees of ports handle these waste and the administrations have not realized the crucial environmental threats associated with this practice. With the increase in the number of ships

¹³ Jose G.B. Derraik, "The pollution of the marine environment by plastic debris: a review", 44 *Marine Pollution Bulletin* 842 (2002)

visiting ports, the waste production is also on rise. Consequently, port waste management needs to be addressed in a structured and systematic way. This can ensure environmental protection under viable economic and operational system by fulfilling international requirements.

Reducing the discharges of sewage and garbage into the oceans will certainly facilitate the protection of marine environment. This can be achieved by implementing the objectives set out in Annexes IV and V of MARPOL 73/78, i.e. by reducing on board ship generated waste, improving the availability of port reception facilities and by punishing the defaulters. The introduction of MARPOL Annexures has reduced the entanglements and ingestions to marine biota in some places, but at some other locations the situations remain the same or without much improvement and sometimes, even worse¹⁴. The MARPOL implementation to a great extent depends upon the ship owner's willingness to stick on to the provisions of the Annexures and the proper implementation of the International Safety Management Code. The reduction in pollution level will certainly depend upon the waste management plans and standards set by the home port, port of call and other requirements and plans to be carried out on board the vessels.

In India, ships continue to discharge vast amount of plastics and sewage illegally into the oceans and this shows gross neglect of the provisions of Annexure IV and V. It also shows the pathetic condition of enforcement of environmental regulations in ports. It is identified that the economic costs involved with waste management compliance are exorbitant in India. Therefore, companies may practice illegal discharging of sewage and garbage into the seas. Unfortunately, waters of developing countries like India are highly susceptible to the non-compliance and illegal discharging or rather

¹⁴ Carpenter. A and Mac Gill S.M., "The EU Directive on port reception facilities for ship-generated waste and cargo residues: the results of a second survey on the provision and uptake of facilities in North Sea ports", *50 Marine Pollution Bulletin* 1541 (2005)

improper disposal of ship generated wastes because of the lack of proper laws and poor enforcement regime. The environmental laws should clearly address the legal, financial and practical responsibilities of all concerned in the operations of delivery and disposal of ship generated wastes in ports.

Port waste management should be an important agenda for port administrations. The ship generated wastes and cargo residues need to be regulated properly. The waste management law should incorporate provisions to supplement the modern concept of “reduce, re-use and recycle”.

Waste fee should be charged on all vessels visiting the ports, irrespective of the fact whether they use it or not, and this should be included in the port taxes. The cost recovery system will definitely encourage the disposal of waste on land rather than its illegal dumping at sea.

Along with strict punitive or negative incentives, government may also consider giving positive incentives to those who comply with the requirements. These incentives can be tax incentives, loan guarantees or government subsidies.

In order to minimize the burden of providing port reception facilities for wastes, ship board management plan should be encouraged. The flag states should provide incentives to ship owners to purchase and install equipment such as incinerators on board.

The government should also encourage research and development of technology for the compliance of Annex IV and V for ships and ports. When amending the domestic legislation, the voluntary practices adopted by the shipping industry to comply with Annex IV and V may also to be considered.

In India, private contractors collect wastes from ship and this system does not encourage the delivery of waste on land. A change is worth considering. Port administrations need to adopt better technology for proper management of waste received from ships. This can be done by means of technology sharing agreements with foreign counterparts.

In India, maritime accidents are on a rise especially during the monsoon season. Majority of ships operating in India's coastal waters does not comply with documentary seaworthiness. The international law on control of vessel safety and pollution is changing rapidly. These radical changes are implemented in countries like the United States of America and the European Union by means of specific legislations. There are ample provisions in these legislations to empower the enforcement authorities. As a result criminalization of seafarers has become very common in major maritime countries.

When analyzing the Indian law the major problem identified is that the enforcement standards of environmental and safety regulations in ports is very poor. The reasons are several. The far-reaching changes made in the international norms of vessel safety, navigational requirements, manning, equipment standards, response and planning in case of incidents are merely repeated *verbatim* in the rules framed under the Merchant Shipping Act, 1958 and by the circulars issued by the Director General of Shipping. The corresponding changes are not incorporated into the port regulations. Hence, obsolete standards on lighting, manning, crewing and piloting are found in port regulations. Most of the vessels find it easy to make a port entry as they need to comply only with these out of date specifications.

In India, the phasing out schedule for single hulls has been extended till 2015 and is likely to continue at least for a few more years. In the United States and in the European Union, the phasing out of single hull tankers is complete. Taking advantage of this situation the ghost ships from the western countries are brought to be dismantled at recycling yards like Alang. Reports are coming that many of these ships are anchored in India's territorial waters, seeking port clearance to Alang, thereby causing substantial threat of being capsized during the monsoon seasons. Hence, the advanced phasing out schedule under the MARPOL regime should be strictly implemented.

Maritime accidents are bound to happen but its effects on environment can be minimized by legislation, proper regulation and effective litigation processes. For this, India has to set long term plan for port environmental management and a well-suited economic policy. In the long run, the 'polluter pays principle' along with anticipate and prevent strategies could eliminate the risks of maritime casualties in ports.

Total elimination of shipping accidents is impossible because the risk of natural perils of the sea is inherent in the transportation of goods. Improper co-ordination between various authorities, willful and negligent violations of international and national safety rules, inept communication and signal systems, lack of commitment on the part of regulators, ship owners and operators, all these factors have contributed to the increase in the number of shipping casualties in the recent past. Accidents will continue to occur irrespective of the technology advancements and capacity building measures to prevent it. Yet it remains a reality that the response measures, investigative and adjudicatory mechanisms remain the same as it used to be a hundred years ago.

The Contingency Planning and Response system in the USA is based upon the '*potential polluter pays*' principle whereas in India it is the *Government –only –Approach*¹⁵. The main drawback of the Indian system is that the ability to deal with major spill is contingent on the happening of the incident. In the USA and Canada, the system has adopted new techniques and standards to deal with major oil spill catastrophe, which is primarily based on a long term commitment to the problem posed by oil spills. These countries by means of legislation have integrated the salvage operations with the contingency plan. Therefore, expert towing arrangements are readily available. The vessels in distress are given safer options or at least helped to find other

¹⁵ Marlene Calderon Veiga, "A Comparative Analysis of the European and North-American Approaches to Dealing with Major Oil Spills", *3World Maritime University Journal of Maritime Affairs* 14 (2004)

alternatives. The USA under the OPA 90 scheme follows a *proactive response approach* and hence is far more capable in controlling spills when compared to the European counterparts.

When it comes to the implementation of the NOS-DCP plan, there has been a strong prominence in the co-ordination roles and practically nil responsiveness to command and control procedures. The Port authorities have not developed expertise in risk management procedures. Little effort is being made to evaluate the effectiveness of the policies and regulations on a regular basis. Practically no research and development projects in the field of oil spill prevention and response has been attempted so far. Functional responsibilities have been allocated to various stakeholders, yet no feedback is attempted or at least there is not an established mechanism to ensure effective participation of them in the definition and implementation of preparedness and response policies. Thus, more comprehensive and elaborated guidelines need to be developed for the regional and local contingency and response plans. In conclusion, with regard to contingency planning, India has weaker legislation compared to that implemented in the USA and Canada. This situation can be attributed to the fact that India has not implemented an intelligible and regular structure to evaluate the ability, competence and usefulness of the measures taken. India should enter into regional co-operation and bilateral agreements with neighbouring countries so as to implement the contingency planning and response envisaged under the OPRC. The OPRC-HNS Protocol need to be ratified soon and immediate legislation is required in this behalf so as to eliminate the risk of accidental spill of hazardous goods.

The Indian law when defining a wreck is not in tune with the international regime. Therefore, it creates ambiguity as to the scope and extent of powers of the receiver in marking, raising, removing or selling of wrecks without any liability to the owner. The 'government alone approach' is the rule regarding removal of wreck at present. Even if the wreck is not affecting environmental or public safety, because of the current statutory provisions, compensation claims cannot be strictly

enforced against the owner as the wreck should be an abandoned vessel or goods. Also, salvage laws are not integrated with the NOS- DCP Contingency Plan. Thus, there are potential pollution risks while salvage operations are going on for removing wrecks. The Indian law does not address this issue.

Across the globe, heavier penalties are imposed in accidental oil pollution cases under the civil liability regime. The MSA is inadequate in fixing the quantum and liability in marine casualties. Collision is dealt under a separate part and the Act completely ignores collisions leading to pollution. The Act has no provisions to be applied in such cases. Moreover, these parts leave out all vessels other than tankers from its purview for civil liability in oil pollution damages. In cases of marine casualty, the provisions of MSA are inept for representing community interests collectively. Under the Act pollution damage is restricted to reasonable costs involved in reinstatement but it is not clear as to what constitute the “reasonable measures of reinstatement”?

India lacks a consolidated law for dealing with marine pollution from collisions at sea. The existing law is inadequate to deal with marine casualty incidents. The MSA is not enough to fix the quantum and extent of liability in marine casualty cases. Vessel detentions are temporary solutions since, the ship owner may abandon the vessel and the government will be left with the task of cleaning up the shores.

Hence, there is an urgent need to amend the law on collisions and civil liability regime under the MSA and the investigative proceedings under the Indian Ports Act to keep them in tune with the international regime. The Indian law should also incorporate provisions for ship pollution response contracts as between the ship owner and the recognized pollution response agencies as a condition for entry to ports. India should enter into agreement with advanced countries for technology sharing to combat major spills. Port authorities should have sufficient man power for supervising and maintaining navigational and safety aids.

The analysis of Indian standards on control of ship breaking reveals that the problem is not with inadequate legislation but immense laws conferring jurisdiction on more than a dozen bureaucratic instruments and institutions. A ship breaker has to obtain numerous clearance certificates¹⁶ before entering the recycling facility and also during demolition. Thus, multiple jurisdictional regimes¹⁷ make the clearance procedure extremely cumbersome for the ship breakers. Therefore, they resort to illegal methods for conducting the ship breaking activity.

Inter-ministerial consultation should be effective for proper enforcement of rules and regulations on ship recycling. At present more than half a dozen ministries are involved with matters pertaining to giving and denying of licenses for ship breaking and issuance of clearance certificates. The Ministry of Forest and Environment as a nodal institution can do a lot more by calling for reports from other ministries and various departments towards control of ship breaking. Since the jurisdiction of various authorities under different acts cannot be ousted, the practical solution is to coordinate the clearance activities under a comprehensive system. The comprehensive system should have the state maritime board as the apex institution to conduct inspections, coordinating different departments under various ministries. This could definitely strengthen the enforcement regime and make the port clearance formalities handy and efficacious.

In India, not many states have constituted maritime boards or enacted legislation for controlling pollution in ports from ship dismantling. The Gujarat

¹⁶ The certificates include Cargo Free Certificate, Decontamination Certificate, Atomic Radiation Free Certificate, Gas Free for Man Entry, Gas Free for Hot Work, Naked Light Certificate, Waste Disposal under Hazardous Materials and Waste Rules, Labour Insurance Certificate, Factory Inspector Certificate and Beaching Permission

¹⁷ Customs Department, State Pollution Control Board, Department of Explosives, State Factories and Labour Commission, Atomic Energy and Radiation Board, Department of Inspection, State Maritime Board and Inter-Ministerial Committee exercise jurisdiction

State Maritime Board's Ship Recycling Regulations, 2006¹⁸ is the only legislative effort in this regard. The scrapping industry can be very well regulated through quality monitoring, inspections, reporting and prosecutions at national level. The state maritime boards, port authorities and state pollution control boards are expected to conduct periodic investigations, call for information from the recycling yards and submit timely reports to the state governments. If they do this job properly, there would be no issue of illegal scrapping across the shores of India.

In order to tackle the present legal crisis, there should be co-ordination and co-operation at national and international levels. International law on waste shipment should clearly design the obligations of flag state, reception state, port state, ship owners and all other stake holders of the industry. Tracking of illegal vessel trafficking is very important. This can be achieved only by sharing of information between the flag states and recipient states. The international law on ship registration should provide ample guidelines for the national system to enact laws that would make the original owners accountable in pollution cases and would also curb fake ownership. Tracking of unseaworthy vessels being imported to India may be of utmost concern for the authorities in respect of subsequent process of ship dismantling.

Absolute obligation should be placed on the flag states to decontaminate vessel before exporting to developing countries. They should strictly enforce the 'inventory' requirement and prior informed consent procedure. Laws

¹⁸ Gujarat is the major state involved in ship recycling in India. The state maritime board was created under the Gujarat Maritime Board Act 1981. The Board has enacted Ship Recycling Regulations, 2006. The regulations insist strict compliance of Basel Convention. The Gujarat Maritime Board has created a "Treatment, Storage and Disposal Facility" (TSDF) which is authorized by the Gujarat Pollution Control Board under the Hazardous Waste(Management & Handling) Rules vide GPCB/HAZBHV-C-28/05/12431 dated 13th May-2005. This plan was implemented following the Honourable Supreme Court's decision in the *Clemenceau Case*

governing the design, manning, construction and equipment of vessels should go for adoption of eco-friendly technology and use of non-hazardous materials in ship building.

The international law on ship recycling is still in its infancy. Apart from the IMO Guidelines and several NGO efforts¹⁹, which are mainly recommendations, a vacuum is created by the absence of legally binding instruments.

The Hong Kong Convention is already under high criticism for its too much technicality. The convention *albeit* having many provisions for recycling in an eco-friendly manner is all bark and no bite in terms of strict enforcement measures. Also, the ambiguity regarding many provisions can add to the dilemma of national administrations as to the implementation of its provisions in the domestic system. The convention legitimizes beaching process whereas beaching is not at all advisable, taking into account the technological crudeness in South Asia. The greatest drawback of the convention is that it does not implement total ban of export of toxic wastes from developed to developing countries. Hence, in the existing circumstances, it cannot replace the Basel Convention in terms of strict enforcement. The Basel ban once implemented may totally ban the export of toxic ships to developing countries. The actual success of the enforcement regime under the Ship Recycling Convention would depend upon the economic circumstances and the diligence shown by states in its strict implementation.

Often, vessels exported for scrapping to developing countries do not comply with the Basel Convention requirements on decontamination. There exist ample loop holes in the current enforcement regime where ship owners can escape from the liability by transferring the vessel in 'fake names'. These intermediate buyers are non-accountable and would have deposited 10-15% of

¹⁹ Best recycling practices are adopted by the International Chamber of Commerce and Association of Baltic countries

the value of ship in an Escrow Account. Therefore, the owners may sink the ship and sue for insurance costs, if some objections are raised by the authorities of the recycling state.

The authorities of the receiving state may help the recycling facility to achieve technology sophistication as per the international specifications. India need to explore the chances of regional or sub-regional co-operations for establishing training centres and technology transfers regarding the management of hazardous wastes and the minimization of environmental impacts from ship recycling. Yet another option is to recycle the hazardous vessels in the country of its origin, rather than exporting it to global commons. This movement has already been kicked off in the United States²⁰.

There is nothing wrong in being pro-economic but it is equally pertinent to regulate the hazardous industries properly. Or at least, establish a comprehensive control regime. In India, the lethargic legislative reforms have enabled law evaders to pull the wool over the eyes of administration and to conduct million dollar businesses along the shores of the country.

Trade and environment may not be conflicting. These elements should actually complement each other. The regulatory regime should try to bring in harmony between these two paramount concepts. The laws of any country are a clear depiction of its governmental policies. Unfortunately, India is blindly adopting the Euro-American trade and maritime policy without taking into consideration the decline of these economies in the recent past. India needs a policy that brings equilibrium between trade and environment. Our export – import policy should follow a holistic approach when dealing with import of

²⁰ See, <http://www.ban.org/2011/11/08/exxon-mobil-creates-green-u-s-recycling-jobs/>: “Instead of sending their defunct tankers to the in-famous ship scrapping beaches of South Asia, Exxon Mobil, a wholly owned subsidiary of Sea River Maritime, recently completed the sale of S/R Wilmington, a 1984 built tanker to a U.S. Ship recycling facility”, last visited on November 2011

hazardous substances. Already, the draft maritime policy gives thrust for environmentally sound ship dismantling. By implementing this policy through proper legislation and detailed guidelines India can enrich its economy without comprising health and safety of its citizens.

Suggestions

The study analyzed the Indian law on control of vessel sourced pollution in maritime ports. The plethora of legislations has actually weakened the enforcement mechanisms in India. Therefore, the following suggestions are made.

1. The amendment of the Merchant Shipping Act, 1958 for consolidating the law on control of vessel sourced pollution. The law should address all aspects of newer and advanced versions of vessel sourced pollution with effective provisions to control it. The Merchant Shipping Act, 1958 should be amended and consolidated taking into consideration the potential pollution risks associated with maritime transport, which is anticipated for at least a few decades in the future. It should have effective provisions for implementing MARPOL in India.
2. The amendment of the Indian Ports Act, 1908 is also suggested by incorporating the provisions that actually compliment the scheme of pollution control under the Merchant Shipping Act, 1958. In the absence of this, the enforcement of safety and pollution control rules under the Merchant Shipping Act, 1958 will be futile. The Act in its present form is a colonial legislation which does not suit the dynamic requirements of the shipping industry. The new Act should sort out the issue of overlapping jurisdiction within the port area by clearly laying down the powers of port authorities to control vessel sourced pollution in ports.
3. The Maritime Zones Act, 1976 and the rules under it should clearly provide the criteria for denying access to defaulting vessels into the ports. The ship pollution response contracts as introduced by the People's Republic of China may be introduced in India also as a requirement for

port entry. This would eliminate the issues related to salvage and pollution control to a great extent in the event of any maritime casualty.

4. The Indian Coast Guard Act, 1978 should also be amended to specify the role of coast guard in controlling vessel sourced pollution. The enforcement powers of the coast guard and the role played by it as a nodal agency to co-ordinate activities in cases of major spills should be made clear. The coast guard court established under the Act can be given adjudicatory jurisdiction over vessel pollution cases. Towards this, the Act requires amendment.
5. An admiralty law should be enacted at the earliest redefining the jurisdiction of Indian courts in pollution cases. As such there are serious vacuums and ambiguities in the admiralty law especially on adjudication of maritime claims as to safety and pollution control in ports, wreck removal and salvage. The new law should be addressing to these issues.
6. As a secondary line of enforcement, the port state control in Indian ports should be strengthened. The port authorities should be manned with sufficient resources for inspections, certificate verifications, technical surveys and for strict administrative enforcement.
7. The civil liability regime for pollution damages should be made more effective by consolidating and making clear the provisions of the Merchant Shipping Act, 1958. The sections dealing with incidents leading to pollution, the quantum, nature and extent of liability that can be imposed on the vessel and owners requires major changes and it should be consolidated. The law should have ample provisions to protect community interests. It should have provisions for proper reinstatement of victims of pollution incidents.
8. Criminalization of seafarers is a draconian law and should be resorted to only in cases of major spills, only when pollution is caused by the willful or reckless vessel operations by the mariner. The law should address to the

issue of possible double prosecutions and investigation delays against mariners in the Indian legal system.

9. Ship recycling is a major source of revenue for the country. Considering its importance in India's economic development, there should be a harmonious development of law on ship recycling by balancing trade and environment.
10. The response system can be made effective and comparable with the international law by enacting more comprehensive and elaborate guidelines for the regional and local contingency and response plans. India should implement an intelligible and regular structure to evaluate the ability, competence and usefulness of the measures taken. India should enter into regional co-operation and bilateral agreements with neighbouring countries so as to implement the contingency planning and response envisaged under the OPRC. The OPRC-HNS Protocol need to be ratified and immediate legislation is required in this behalf so as to eliminate the risk of accidental spill of hazardous goods.
11. Vessel sourced pollution is a global problem. Its impacts are not confined to the territorial limits of the country where it occurs but may be felt on the coasts of other countries as well. India should enter into agreements with the advanced maritime countries for technology sharing in order to combat vessel sourced pollution. In this way, all major ports can be equipped with port reception facility. The MARPOL can be effectively implemented only by equipping enforcement agencies with advanced technology specification prescribed under the convention.

In order to eliminate the risk of vessel sourced pollution in ports, it is important that India should have a strong enforcement system on international prescriptions. Unless, the law is consolidated and made clear, the IMO vision of clean ports will be a distant dream. This may in turn have huge negative impacts on the trade prospects of the country.

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RESEARCH PUBLICATIONS

Journal of Politics & Governance, Vol. 2, No. 3/4, July-December 2013

Shipping Industry in India: Legal, Environmental and Policy Issues

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Abstract

Over 95% of the international trade happens by sea. The sustainable development of shipping industry is inevitable for international trade. Its development has an impact on marine environment, if unregulated, may lead to irreversible degradation of the ecosystem. There have been commendable efforts to promote quality shipping under the aegis of the International Maritime Organisation (IMO) and other international institutions. Unfortunately in India, the major concern is that the shipping operations are being carried out under substandard conditions raising crucial issues of pollution and safety in coastal waters. Unhindered access to sea ports is indispensable for economic progress in the current scenario of Globalisation. Equally important is to establish a balance between trade and environment. In the absence of proper access control and monitoring quality of ships, the topography of Indian ports and its navigable waters may not be environmentally secure in future. In the wake of massive port expansion programmes and globalization, this paper analyses the major legal, environmental and policy challenges connected with access and control of ships into Indian ports.

Keywords: Shipping Industry, Legal Framework, India

Introduction

Owing to globalization and the open port policy, there has been tremendous rise in maritime transport coupled with oil exploration along the Indian coastal line¹. In India, over 95% by volume and 70% by value of international trade happens by the sea. The country is also one among the major crude oil importers in the world². India has 13 major ports, over 197 minor ports, more than 250 fishing harbours and over 100 offshore platforms³. Hence, shipping is a major industry in India and the industry is of great significance for the country's economic development. The maritime policy of India⁴ adopts an all-inclusive approach for the port development, in order to meet the needs of dynamic shipping operations. While giving thrust to capacity building and technology infusion in maritime ports, the policy also aims for the sustainable development of ports and shipping industry. "...trade and environment are two facets of the same coin; both have to compliment mutually...at least in the sense that increasing world welfare can lead to citizen demands and governmental actions to improve protection for the environment"⁵. In spite of these sound policy initiatives, shipping operations in India are reported to be carried out under substandard environmental and safety considerations. In the wake of massive port expansion programmes and globalization, this paper analyses the major legal, environmental and policy issues connected with shipping operations in India.

Journal of Politics & Governance, Vol. 2, No. 3/4, July-December 2013**The Issue of Regulating Access to Ports**

The purpose of maritime ports cannot be accomplished without facilitating free access and egress of vessels. States generally keep their ports open for foreign vessels based on reciprocity, courtesy and Port state co-operation⁶. At the same time, the port state's sovereignty to deny access to vessels is already established under the international law⁷. Hence, regulating access can be used as a precautionary measure to control vessel sourced pollution. The denial of access if, not on legitimate grounds may provoke heated political arguments between the flag state and port state thereby running down the trade relations and economy.

The United States of America, the United Kingdom, and the European community of nations have made radical changes to their laws regulating access to ports⁸. Even in the absence of specific regulations, the U.S Coast guard had denied access to foreign vessels on the ground of national security under the Special Interest Vessel Program (SIV). Similarly, if the events occurring on high seas had any 'effects' on the vessel of another flag state or on the territory of a state, no rule in international law would prevent those states from initiating legal proceedings against the transgressing vessels⁹. No country other than the United States would have applied this 'vital interest theory' or 'effects doctrine', very intensely to secure its national interests¹⁰.

In India, the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 (here in after the MZA76), gives the central government sovereignty to deny access to all or any class of vessel, if the voyage is a threat to the peace, good order or security of India¹¹. Under this Act, all foreign ships except warships and submarines can enjoy innocent passage through the territorial waters, unless such passage is prejudicial to the peace, good order or security of the country¹². In spite of this wide power to restrict the entry of polluting vessels, many of them find easy access to our ports and navigate freely through the territorial waters of India. A prominent reason is that the MZA 76 and the rules thereunder set no clear criteria for denying the access. Hence, what constitutes a threat to peace, good order or security of India is often a political consideration rather than a question of law.

This legal crisis has been vehemently used by the Ship breaking industry for illegal benefits. This is a major industry giving employment opportunities to many millions and generating immense revenue for the governments. Yet, it operates under substandard conditions in India¹³. If, the provisions of MZA 76 had clearly laid down the criteria for denying access to ports, India would not have become the junkyard of "ghost ships" of the western world. Consequently, judicial approaches on whether to allow access for these ships to Indian ports remain conflicting. For example, in *the Clemenceau case*¹⁴, the French warship at the time of its phasing out had 130 tons of asbestos and other toxic wastes on board. It was not given access to ports worldwide subsequently¹⁵. In December 2005, it left for Alang, in India for ship breaking. In January 2006, owing to huge public appraisal and media attention, a petition came up before the Supreme Court of India and the Court had issued a temporary order prohibiting the vessel's entry to the Alang port. The court had expressed a strong view to strike a balance between economic development and environmental protection.

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In *the Blue Lady Case*¹⁵, the major issue in question was whether Alang had technological sophistication for safe ship dismantling. Ignoring the opinion of the High Level Expert Committee that Alang never had the technology sophistication to dismantle vessels in an eco-friendly manner, the Supreme Court of India ordered for the entry of the vessel into Alang and allowed its dismantling. According to court, sustainable development also means balancing 'the priorities of economic development and environmental protection'.

Indian Admiralty Law: Still in its infancy

The Indian legislature has not taken notice of the day to day dynamism in maritime operations and the modernization of admiralty jurisdiction in other countries. The British Statute Repeal Act abolished over 250 British statutes but the Admiralty law remained untouched. The Government of India, following the Law Commission Reports¹⁷, the Parveen Singh Committee¹⁵ and pressures from all stake holders in the industry had introduced the Admiralty Bill in 2005. No concrete efforts towards consolidating the admiralty law in India had happened after that. As such there are serious vacuums and ambiguities in Admiralty law especially on adjudication of maritime claims as to safety and pollution control in ports, wreck removal, salvage, planning, preparedness and response in case of maritime casualties, the Coast Guard's powers to implement the contingency planning, surveillance and monitoring of vessels, civil liability in case of oil spills, giving access to vessels in distress etc.

The Ambiguity of Admiralty Jurisdiction

Yet another critical issue is that India is not having a consolidated law on admiralty jurisdiction. The admiralty jurisdiction in India is still governed by a few colonial legislations; the Admiralty Court Act, 1861, the Colonial Courts of Admiralty Act, 1890 and the Colonial Courts of Admiralty (India) Act, 1891. It can be said that the Admiralty jurisdiction of India is a consolidated effect of the Articles 372, 225, 226 & 227 of the Constitution of India, Section 443 of the Merchant Shipping Act and the decision in *M.V. Elizabeth's case*¹⁹. In that case, the Supreme Court of India had expressed its deep anguish over application of colonial laws to Indian cases of admiralty.

The vagueness in the substantive law has created a situation where judges are forced to rely on procedural rules. And, this has caused serious deterioration in the standards of adjudication of maritime disputes in India. A handful of shipping legislations confer civil and criminal jurisdiction in admiralty matters to the Magistrate courts thereunder and this has created issues of overlapping jurisdictions. Ultimately, Port State Jurisdiction and the enforcement regime of Indian Administration have become all bark and no bite. *The Enrica Lexie* is the latest case on this point.

The Enrica Lexie

The Indian Administration vide its circular dated 29th August 2011, had issued guidelines on the deployment of armed security guards on its merchant ships as a deterrent counter-piracy measure. In *the Enrica Lexie case*²⁰, one of the prominent reasons for jurisdictional conflict between India and Italy may be the absence of global standards and strict Rules for the use of Armed Forces on Merchant ships. In the present scenario, the Coastal State's law enforcement agencies and their security task forces will have to face serious legal and political repercussions when exercising jurisdiction over vessels deployed with armed forces.

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In the United States of America and other developed countries, the Admiralty Jurisdiction is well developed and is actively supported by criminal laws of the land. This is not the case in India. Under section 361 of the Merchant Shipping Act 1958, a magistrate is required to make only a formal enquiry upon a maritime casualty and may forward the case to the proper court, if necessary. In the said case, the crime was primarily charged under the Indian Penal Code. Had the offence been charged also under the Admiralty law, the families of the deceased seamen could have claimed proper compensation? As long as the Admiralty law is not consolidated and ambiguity continues, it will be very difficult to adjudicate such cases and fix liability under the civil liability regime. Instead of addressing to these vital issues, the government has rather politicized the case.

Weak Port State Control Regime (PSC)

India is a member of the Indian Ocean Memorandum of Understanding on Port State Control (IMOU). The Port State Control Officers (PSCOs) inspect foreign ships in national ports to verify the compliance of international conventions on shipping. In the year 2012, out of the total 5051 inspections carried out by the member states, India had done around 634, out of which 518 inspections were identified with deficiencies. The total number of detentions was just 119²¹. The number of detentions is less primarily because of the weak enforcement of environmental regulations in ports. There are neither dedicated department nor sufficient officers for PSC. Its functioning is included under the Mercantile Marine Department which has several other duties to perform under its wing, thereby unable to effectively perform its role as PSC Authority.

The far-reaching changes made in the international Conventions on vessel safety and pollution control are merely repeated *in verbatim* in the rules framed under the Merchant Shipping Act and by means of circulars issued by the Director General of Shipping in India. The Indian Ports Act 1908 is obsolete and does not incorporate these changes into the port regulations. Considering the urgency and critical nature of the issue, the Indian Ports Bill 2011 is under consideration²². Once enacted this new Act will replace the Indian Ports Act 1908 and the Major Port Trust Act 1963. Hence, the Indian standards of PSC are very mediocre and the inspections conducted by Indian PSCOs are definitely below the target specified under the international law. This has facilitated the hassle free entry of unseaworthy vessels and increased pollution incidents in Ports.

Segregation of Enforcement Powers on various Ministries and Departments- Ambiguity as to the Powers of the Indian Coast Guard

In India, provisions to ensure sustainable shipping lay scattered in a handful of legislations making it difficult to co-ordinate the enforcement under a single agency, especially in cases of marine pollution. Chapter II, Section 4 of the Coast Guard Act²³, authorizes the Coast Guard of India, to ensure the security of maritime zones of India, which includes control of marine pollution. The Coast Guard has the responsibility to prevent and protect the marine environment of the Country and ensure safety in territorial waters²⁴.

Under the provisions of the Indian Ports Act 1908 and the Major Port Trust Act 1963, the Port Trust acting through the Conservator of Ports has to ensure safety and pollution control within the Port area. At present the Indian Coast Guard (ICG) is exercising its functional responsibilities such as surveillance, combating oil spills, central co- ordination of the

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National Oil Spill Contingency Plan (NOS-DCP), inspection of vessels to ensure seaworthiness and detention of violators of anti-pollution provisions under section 356(g)(1) of the M.S. Act 1958, only beyond the port limits²⁵. Hence, the Port conservator should get sufficient information from the ICG before taking any action against the violators. Unless this process is well co-ordinated and fast, timely detentions and control measures may not be effective. The Ministry of Environment and Forest also has functional responsibility to monitor and take remedial action in the event of marine pollution along the coastal side or beaches²⁶.

By clearly defining the role and hierarchy of enforcement agencies and by streamlining their activities under a central agency, i.e. the ICG, the enforcement regime could be made more efficient. The Indian Coast Guard Act should be revised so as to confer definite powers to ICG as the nodal agency to monitor, survey, enforce and punish the offenders contributing to pollution in the Indian waters instead of demarcating the same under different laws upon a handful of bureaucratic agencies.

Conclusions and Suggestions

The Maritime Policy aims for sustainable development of the shipping industry:- The Indian law on Admiralty is not in pace with the dynamism in shipping operations. Unless, the law is consolidated and well defined, India's Ports state Jurisdiction will not be effective and in tune with the international regime. The Port State Control should be made an independent arm of the Port Authority which can solely dedicate its manpower and resources to control and monitor the vessels calling at Indian Waters thereby increasing its effectiveness. If the entries of inferior quality ships are not regulated judiciously, it may question the very existence of the ports; the trade and economic prospects of the country will be in turmoil.

End-notes

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⁸ The U.S Ports and Waterways Safety Act and the Regulations under the Deep Water Ports Act, 1974 vests with the United States Government the power to deny entry to foreign vessels.

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¹⁰ In U.S. v. Aluminium Co. of America 148 F.2d 416, the American court has made the classic statement: "any state may impose liabilities, even upon persons not within its allegiance, for conduct outside its borders that has consequences within its borders which the state reprehends"

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5. Presented a paper titled “Ship breaking to recycling: problems and challenges” at the National seminar on “Realization of Socio-Economic Rights”, organized by Department of Law, University of Kerala.
6. Participated at the National conference on Commercial/ Maritime Arbitration and Mediation as Dispute Resolution Mechanisms jointly organized by the Indian Council of Arbitration and Kerala Chamber of Commerce and Industry in December 2010.
7. Participated in the Public Law Lectures 2009 on Right to life and Capital Punishment.
8. Chair-person for Two day National Conference on E-governance: the Economic Impact on Common Man in Rural Area on 30-31st October 2013 at Amrita School of Arts and Sciences, Kochi. At Amrita School of Arts and Sciences.

9. Chair Person for a Two Day National Conference of “Innovations in Banking for Future Growth” on 3rd-4th March 2014
10. Participated in National Seminar on “Foreign Direct Investment (FDI) in Indian Retail Sector and its impact on Kerala Economy”, at Amrita School of Arts and Sciences, Kochi on 19th March 2013

Publications:

1. “The Use of Armed Forces on Merchant Vessels without Strict Rules for the Use of Force”, 45 *Journal of Maritime Law and Commerce* 1, (2014) (Accepted for Publication- January 2014 Issue)
2. “Shipping Industry in India: Legal, Environmental and Policy Issues”, *Journal of Politics and Governance*, Vol.2, No. 3 / 4, July-December 2013
3. “Ship Breaking in India: Legal Issues and Challenges”, *Cochin University Law Review*, Vol. XXXV, March –June 2011.
4. “Indian Admiralty Law: Challenges in Maritime Arbitration” with Dr. A M Varkey, *Kerala High Court Cases*, Vol.2, June 2011

Achievements/ Medals won:

First rank holder and gold medal recipient for M.L. Degree Examinations of the University of Madras in the year 2003.

- 1) The President of India Dr. Shanker Dayal Sharma Endowment Gold medal
- 2) Late Sri. Meloth Krishnan Nambiar Endowment Gold Medal
- 3) L.C. Miller Medal
- 4) Dr. A.L. Mudaliar Prize.

I hereby declare that all the information furnished above is true and correct to the best of my knowledge, belief and conscience.

Kochi
17/03/2014

SONY VIJAYAN