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International Maritime Organization (IMO)
Maritime Pollution

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Introduction to the Committee

The International Maritime Organization is a specialized agency of the United Nations, responsible for the safety and security of shipping, and the prevention of marine pollution by large ships. The IMO was founded in 1958, under the name of the Inter-Governmental Maritime Consultative Organization (the name IMO was later on adopted in 1982).

The IMO consists of:

- **The Assembly:** the highest governing body of the organization, consisting of all 171 member states.
- **The Council:** the executive body of the organization, elected by the assembly for a term of 2 years. The council holds all functions of the Assembly when the latter is not in session, except for the function of "Making recommendations to Governments on maritime safety and pollution." (As cited by Article 15(j) of the Convention)
- **The Maritime Safety Committee**: composed of all 171 member states, the MSC is the highest technical committee of the organization, and tackles issues ranging from aids to navigation and handling of dangerous cargoes, to casualty investigation and salvage and rescue.
- **The Maritime Environment Protection Committee:** also composed of all member states, the MEPC handles all environmental and pollution-related issues covered by the scope of the Organization.

- **The Legal Committee:** this committee deals with all legal challenges faced by the organization, from consulting and proposing new laws, to investigating the legality of shipments and shipping procedures. The Legal Committee is composed of all 171 member states.
- **The Technical Cooperation Committee:** as its name suggests, the TCC works in all matters related to the implementation of technical issues and cooperation projects spanned by the scope of the Organization. The TCC consists of all 171 member states.
- **The Facilitation committee**: the FC functions in the assessment and elimination of all redundant and unnecessary formalities that might block or impede the Organization's work. The FC is composed of all 171 member states.

As cited by article 1(a) of its Convention, the IMO is established to:

> Provide machinery for cooperation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution from ships. (IMO Convention, 1958)

The IMO has introduced several instruments and measures to fulfill its statement, and, with technological advances, is always working on amending and improving them.

Introduction to the Topic

From a biological viewpoint, the marine environment is a complex environment inhabited by millions of different species. Any tampering or change with its composition will have a substantial effect on the life present in it. From an economic viewpoint, seas and oceans constitute a growth space for several of the substances humans consume and use industrially on a daily basis: from fish and

seafood, to the algae that produce gelatin used on industrial scales. It is therefore important to preserve the conditions that permit such an ecosystem to exist.

In theory, shipping is the least polluting mode of transport used by humans, when you relate the amount of goods shipped to the pollution they entail. However, it's important to remember that any change in the physical conditions of seas and oceans has on both the long and short runs a substantial effect on the products we use.

Although it was originally established for maritime safety purposes, the IMO first engaged in the prevention of pollution as the custodian of the International Convention on the Prevention of Pollution of the Sea by Oil in 1954. In 1959, the IMO assumed responsibility for all issues related to maritime pollution and has ever since adopted a broad spectrum of measures aimed at controlling and preventing pollution caused by ships and by ship-related accidents.

History of the Topic

Two major ways in which shipping causes marine pollution are maritime accidents and casual ship waste and fuel consumption. Some of the big questions that are to be asked when tackling this topic are therefore: how do we prevent accidents from happening? How can we reduce ship-produced waste and how can we better dispose of it? And how can we more efficiently consume fuel when shipping?

Prevention of Pollution:

Naturally, and when it comes to an unfavorable situation, the most favorable scenario would be to attempt to prevent it from occurring altogether. Accounting for the importance of prevention, the IMO has therefore adopted the Convention for the Prevention of Pollution from Ships in 1974. It has been amended twice ever since, in 1978 and 1997. Today, the convention is internationally known as **MARPOL**. It is composed of several annexes, each relating to an area of sea pollution. The annexes entered into force one after the other, depending on the

global situation that was taking place. The last annex to enter into force was the prevention of air pollution by ships, in 2005.

a) **Oil Pollution:** 2900 million barrels of crude oil are transported by tankers every year. MARPOL has introduced several operational and constructional regulations that have been adapted by the industry in order to minimize oil pollution. Such measures include the ship build specifications, filtration systems, and post delivery cleaning.

Figure 1 - Oil Spills Due to Itox I Blowout in the Gulf of Mexico in 1979

b) **Pollution by Chemicals:** as of July 1986, MARPOL and the International Bulk Chemical code (IBC Code) have introduced strict guidelines that the chemical industry must follow when it comes to the transport of large quantities of chemicals. The IBC sets a comprehensive list of chemicals, their hazards, and how they should be handled.

c) **Pollution by Sewage:** the dumping of sewage in seawaters creates hazardous conditions, and causes water oxygen depletion. As of 2005, the IMO requires that governments find adequate locations for sewage dumps, and that sewage carrying ships are adequately equipped with filtration and disinfection systems. As of July 2011, the MEPC adopted the MEPC.200, that prohibits the dumping of sewage in the Baltic Sea by passenger ships, unless equipped with the correct waste treatment systems. The MEPC has also adopted resolution MEPC.175 (55) that limits the quantity of dumped sewage by ships, and restricts dumping to distance no less than 12 nautical miles away from the shore.

Pollution Preparedness and Response:

The second most important thing when dealing with a sensitive and large-scale issue is how you respond to it. As a matter of fact, when a crisis arises, it is imperative not to only deal with it in record time, but in a correct fashion too. The IMO has therefore invested funds and manpower into being prepared to deal with a

crisis related to marine pollution. The IMO operates under the International Convention on Oil Pollution, Preparedness, Response, and Cooperation (OPRC 90), adopted in 1990. This agreement gives the IMO and its subsidiaries a specific framework in which they can operate in order to build an effective and timely response to incidents. The IMO later on increased its spectrum of action by adopting the Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances,(OPRC-HNS 2000), adopted in 2000. Member states who adopted both the OPRC 90 and OPRC-HNS 2000 are forced to set-up national preparedness plans and response tactics to incidents involving oil and harmful chemical spillage. Such plans must be supported by adequate equipment, certified action plans, and continuous personnel training. To ensure and maximize efficiency, different plans should be set in order to meet the demands of spillages of different sizes and scales. This step makes the response more cost effective.

Responding to a marine incident is a very demanding task, from technical and legal points of view. The IMO has therefore set an OPRC-HNS Technical Group that deals with these issues setting guidelines for technical and legal issues. Their last meeting was held in 2014. The Pollution Prevention and Response Sub Committee now deals with these issues. Furthermore, any state that is finding difficulties in setting or implementing guidelines can request the help of the IMO through the International Technical Cooperation Program.

Ballast Water Management, Bio-fouling:

After the introduction of steel ships almost 120 years ago, a mechanical system known as ballast water has been put into motion. Ballast waters are seawater pumped in or out of the ship in order to increase stability and resilience of the ship at sea. This innovative system does however come at a cost. When a huge volume of water is sucked at a given location, then pumped out at another, it introduces macro and microorganisms to a new space. Such organisms, like larvae, bacteria, small fish, and eggs, might compete with the already present organisms and if they succeed, can endanger an already existing species therefore perturbing the natural ecosystem. The problem was accentuated with the constant increase of both the

size and number of ships at sea. The issue was first brought to the IMO's MEPC in 1980 by Canada and Australia, but the issue was first noticed by Asian scientists in 1903.

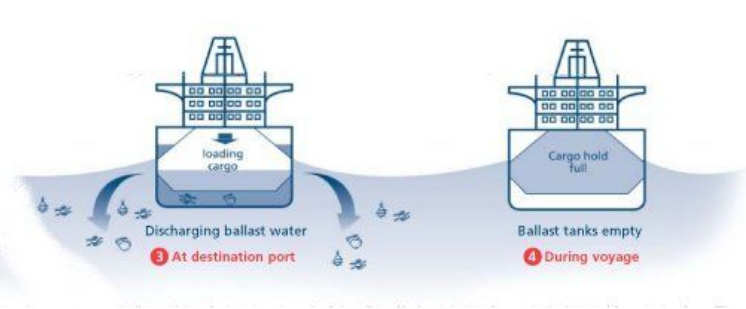

Figure 2 - The Discharge of Ballast Water

Preventing the spread of invasive species by ballast water is tough process that invokes the engagement and support of several governments, economic sectors, and organizations. The UN Convention on the Law of the Sea's Article 196 lists a global framework that encourages nations to work together to address the issue of marine pollution. The IMO has therefore set itself as the front man in dealing with the issue. The MEPC introduced a set of guidelines in 1991 that prevent the introduction of unwanted organisms into seawater. After the adoption of several other resolutions that address the topic, and after 14 years of negotiation between IMO member states, the IMO adopted the International Convention for the Control and Management of Ballast Water and Sediments, or BMW convention for short. It requires the installment of management systems on ships. The BMW convention provides guidelines and appropriates measures to be taken by participating nations. Furthermore, any nation is welcome to take extra measures and make additional changes, but they must be reviewed and approved by the MEPC.

Recycling of Ships:

The first time this issue was brought into the IMO's attention was in March 2000, when a correspondence group was established in order to research the issue of ship recycling and scraping. The group was also tasked to advise about a potential role for the IMO in this issue. The MEPC developed guidelines that were finalized in July 2003, at its 49th session. The guidelines were adopted in the 23rd session of the Assembly, and were known as "The Guidelines on Ship Recycling", stating that during the recycling process, absolutely nothing goes to waste.

A new criterion known as the “Green Passport” was also introduced. This passport consists of a list compiling all materials used in building the ship that could be hazardous to human health or the environment. The document would also enable the mentioning of any change to that list during a ship’s lifetime, and would accompany the latter at all times.

International Actions

The Hong Kong International Convention:

The Honk Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009, aims at assuring that the recycling of ships does not pose any threat to human health, human safety, and the environment.

The IMO took part in writing the text of the convention, in partnership with relevant NGOs.

The following guidelines have been developed and adopted to assist States in the early implementation of the Convention’s technical standards:

- 2011 Guidelines for the Development of the Inventory of Hazardous Materials, adopted by resolution MEPC.197(62);
- 2011 Guidelines for the Development of the Ship Recycling Plan, adopted by resolution MEPC.196(62);
- 2012 Guidelines for Safe and Environmentally Sound Ship Recycling, adopted by resolution MEPC.210(63); and
- 2012 Guidelines for the Authorization of Ship Recycling Facilities, adopted by resolution MEPC.211(63).

International Resolutions and Conventions:

1) International Convention for the Safety of Life at Sea, 1974: http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx
2) International Convention on the Prevention of Pollution from Ships (MARPOL), 1973: http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS),-1974.aspx
3) International Convention on Standards of Training, Certifications and Watchkeeping for Seafarers, 1978: http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Standards-of-Training,-Certification-and-Watchkeeping-for-Seafarers-(STCW).aspx
4) International Convention on Maritime Search and Rescue, 1979: http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Maritime-Search-and-Rescue-(SAR).aspx
5) The Honk Kong Convention: http://www.basel.int/Portals/4/Basel%20Convention/docs/ships/HongKongConvention.pdf

Questions to Consider

1) How do geo-political alliances affect shipping routes?
2) How should funding for research regarding maritime pollution prevention be allocated?
3) Should current adopted conventions and resolutions be re-evaluated?
4) Is the IMO meeting the goals it is setting? How can better implementation be enforced?

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