

A National and International Regulatory Framework for Establishing Sustainable Shipbreaking Industry in Bangladesh

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Abstract

Shipbreaking and recycling activities are mostly done in Bangladesh, India, Pakistan and China. Bangladesh is one of the leading countries around the world in shipbreaking. Shipbreaking industry generates huge employment opportunities for workers. Although working in Shipbreaking industry is very difficult, risky and hazardous, it may contribute a lot to the economy of Bangladesh provided sustainability is ensured. International regulations like the Basel Convention, the MARPOL (Marine Pollution) Convention, the Hong Kong International Convention, the IMO Convention, the ILO Guidelines and other international instruments play important role in controlling the environmental and safety issues concerned with the shipbreaking industry in Bangladesh. Present Shipbreaking laws of Bangladesh reflect the international conventions and guidelines. The Bangladesh Ship Recycling Act, 2018 is obviously a good legislative initiative by the government. However, the government is working with national and international bodies for ensuring sustainable Shipbreaking industry in Bangladesh.

Keywords: Ship Recycling, Shipbreaking Industry, Employment Opportunity, Waste Management.

Introduction

Shipbreaking refers to the process of ship re-conditioning. It is involved with dismantling of outdated vessels for further use. The Shipbreaking concept is a vast idea because it requires huge manpower and logistic support. In Bangladesh, it is being developed as a profitable industry creating huge employment opportunity. As a potential sector for Bangladesh, the industry is being administered through many national and international laws. Effectively starting off in the 1980s, the Bangladesh ship recycling industry has emerged in course of the

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past few decades as one of the leading destinations for dismantling and recycling end-of-life seagoing vessels of the world (Ahammad and Sujauddin, n.d.). At present many Shipbreaking industries are working in Bangladesh who are buying outdated vessels from various countries and exporting them after recycling. Such activities of Shipbreaking yards are bringing both challenges and opportunities for Bangladesh; it is a very important source of iron for Bangladesh but also responsible for environmental pollution in the coastal area. So it has become mandatory for the Bangladesh government to imply national and international laws properly.

Methodology

This article is an independent desk study. The review is two-fold, as it covers factual as well as regulatory aspects of the shipbreaking practices. The international normative frameworks presented and discussed in this article are a mix of so-called hard and soft law.

The data gathering for the factual description of the shipbreaking practices in Bangladesh included collecting and reviewing secondary sources, such as academic literature, analytical reports, and publicly available data which meet the criteria of being available online and in English. The article is based on sources that we consider to be reliable, and the findings are referenced throughout the report. Facts were also retrieved from relevant NGOs working to prevent dangerous pollution and unsafe working conditions caused by beaching.

Research Approach

Though the proposed study is primarily qualitative in nature, both qualitative and quantitative approaches have been used for validity and reliability. In order to find out an adaptable legal solution as a means of accelerating strategies, a comparative study has been held.

Statement of the Problem

Shipbreaking industry has dramatically expanded in Bangladesh, at the cost of environmental degradation and severe labour exploitation. Despite environmental and human rights violations, the Shipbreaking industry represents a vital source of income for the country and a livelihood for a significant portion of its population. Shipbreaking activities in Bangladesh present both opportunities and challenges for Bangladesh. If the government can establish such a system for this industry to ensure minimum environmental hazard through a strict legal framework, this industry may be a great avenue of employment and income. As per our review of the literature, there is a few research work on this field that describes the international and national legislation for shipbreaking and there is no research that suggests the guidelines for making this industry sustainable and environment-friendly.

This paper examines the national regulatory framework for shipbreaking and recycling. This article also examines relevant international instruments which prescribe the core principles for regulating the shipbreaking industry and evaluates the legal regulation of the Bangladesh shipbreaking industry against these international instruments. On the basis of the national and international legal framework, this paper provides a guideline for making the Shipbreaking industry sustainable and environment-friendly.

Background of Shipbreaking Industry in Bangladesh

In Bangladesh, the Shipbreaking industry was born out of a severe cyclone in 1960, which killed thousands of people and a Greek ship “M D Alpine” was driven ashore by the devastating tidal storm and could not be refloated and was confined to Faujdarhat seashore of Sitakunda Upazilla (M. M. Hossain and Islam 2006). In 1964, Chittagong Steel House bought the vessel and scrapped it (M. M. Hossain and Islam 2006). In 1974, ‘Al-Abbas’, a salvaged Pakistan Navy vessel sunk during liberation war and was scrapped in a Bangladeshi scrap-yard in Chattogram (K. A. Hossain 2015). The Karnaphuli Metal Works Ltd scrapped the vessel; which is treated as first commercial Shipbreaking in Bangladesh. The Bangladeshi Shipbreaking industries are being popular because of the availability of cheap and expert labour as well as massive demand for steel and iron. The shipbreaking yards are located near the Dhaka-Chattogram high ways at Salimpur, Bhatiary, Kumira areas of Sitakund Upazilla. The Pakistani and Indian businessmen are not importing big ships due to their adverse laws and environmental reasons; some Bangladeshi industrialists are taking the opportunity to import them and making a huge amount of profit. Shipbreaking activities are measured through Light Displacement Ton (LDT). LDT means the weight of the ship without any water, fuel, cargo, passengers or crew on the board. Bangladeshi businessmen have started to lead the international market of Shipbreaking and established their goodwill. About 23% of total LDT shipbreaking in the world is done in Sitakunda which indicates Bangladesh’s supremacy in this sector (Kutub et al. 2017).



Figure 1: Ship dismantling records by country 2015 (“NGO Shipbreaking Platform » Press Release – NGO publishes 2015 list of all ships dismantled worldwide” n.d.).

The NGO shipbreaking platform secretariat of Brussels released data of 2015 regarding ship dismantling records by country on 4 February 2016. It shows that 768 large ocean-going

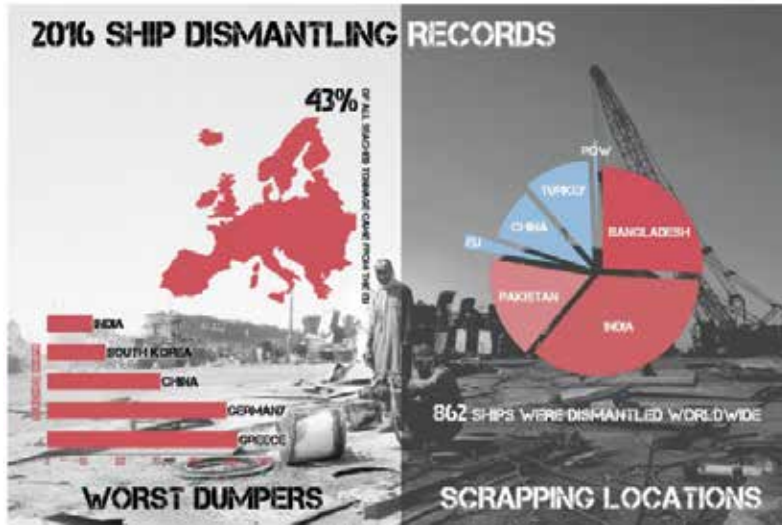


Figure 2: Ship dismantling records by country 2016 (“NGO Shipbreaking Platform » Press Release – Platform Publishes List of Ships Dismantled Worldwide in 2016” n.d.).

vessels were dismantled in the year where 469 were broken on the beaches of India, Pakistan and Bangladesh.

The organisation also published their data of 2016 regarding ship dismantling records by country on 1 February 2017 in Brussels. It shows that 862 vessels were dismantled in the year



Figure 3: Ship dismantling records by country 2017 (“NGO Shipbreaking Platform » Press Release – Platform publishes a list of ships dismantled worldwide in 2017” n.d.).

where a total number of 668 vessels were dismantled on tidal beaches, that is as much as 87% of all tonnage dismantled internationally.

According to new data released on 20 February 2018 by the NGO shipbreaking platform in Brussels show that 835 large ocean-going vessels were sold to the shipbreaking yards in 2017 where 543 were broken down in Bangladesh, India and Pakistan. The ship dismantling records of 2015, 2016 and 2017 prepared by the NGO shipbreaking platform expresses that the growing Shipbreaking industries of Bangladesh are the sign of industrialism and economic development. The government needs to do something more for sustainable development of such industry.

The Contribution of Shipbreaking Industry

Bangladesh government is working to create new job opportunities for the people. There is a limited number of jobs both in the public and private sectors. Shipbreaking industries offer huge employment opportunity for skilled and unskilled workers in the shipbreaking yards

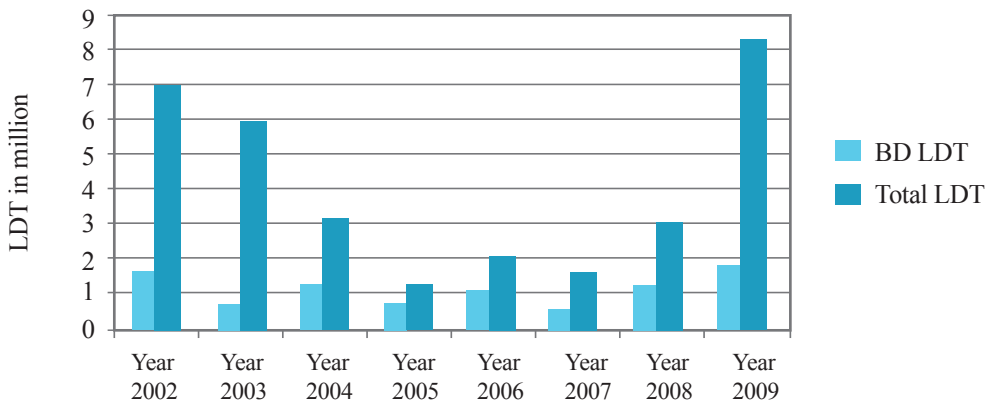


Figure 4: Statistics of shipbreaking in Bangladesh (2002-2009) (K. A. Hossain 2015).

which help to contribute to increasing GDP of Bangladesh. However, shipbreaking activities are increasing day by day in Bangladesh (Figure-4). Statistics of shipbreaking in Bangladesh is given below.

The demand for construction ingredients in the local market is supplied by the ship breaking industries. The ships contain non-ferrous substance like aluminium, bronze, copper, brass and nickel which are precious and expensive. Other substances like FFA, LSA and bridge equipment are sold to the local coastal vessels and merchant's vessels. Actually, the raw materials are purchased by the inland shipbuilding industry, re-rolling mills, steel mills, oxygen plants, cable, ceramics, furniture factories etc. Almost 100% of materials are reused locally. Shipbreaking industries have a contribution of about US\$ 2 billion to the national economy. Furthermore, recapture the value of part and component of the ship, which mostly

made up from metal, promising a considerable profit for the actor of the business and provide tax revenue for the related government (Neşer et al. 2008). That 39% of the steel industries are using recycling materials from the ship breaking sector and over 50,000 people are involved with the industry directly or indirectly (Rinku, Managing Director of the PHP Shipbreaking & Recycling Yard 2017).

International Regulations Regarding Shipbreaking

The shipping industry has traditionally been subjected to international regulation to protect the health and safety of workers as well as the maritime environment {International Law and Policy Institute (ILPI) 2016}. In recent decades, awareness of the detrimental potential for both the environment and human health as a result of improper handling and disposal of hazardous wastes has gained renewed impetus (Alam and Faruque 2014). With the global shift of the industry from developed, highly regulated nations towards countries with weak regulatory and enforcement systems came calls for international regulation to ensure the protection of human rights standards for occupational health and safety as well as the environment {International Law and Policy Institute (ILPI) 2016}. Ultimate responsibility lies upon the yards themselves and the authorities in which countries the shipbreaking industries are situated. However, the authorities of ship breaking industries are responsible for reducing difficulties from the shipbreaking yards before the IMO's Hong Kong Convention comes into effect. Undoubtedly ship recycling is a representation of 'green' industry. So to protect the future of these potential industries, international regulations regarding Shipbreaking should strictly be followed. The relevant international legal mechanisms which are connected to ship breaking are being discussed below.

The Convention on the International Maritime Organisation (IMO), 1948: IMO is primarily concerned with the safety of shipping and the prevention of marine pollution, but the Organisation has also introduced regulations covering liability and compensation for damage, such as pollution, caused by ships {"International Maritime Organisation (IMO)" n.d.}. Article 1 (d) of the IMO Convention has introduced an important purpose of the Organisation as; "to provide for the consideration by the Organisation of any matters concerning shipping and the effect of shipping on the marine environment that may be referred to it by any organ or specialised agency of the United Nations" {International Maritime Organisation (www.imo.org) 1948}. According to Article 15 of the Convention, IMO recommends its members for passing necessary laws to protect the marine environment from pollution occurs through shipping. The Marine Environment Protection Committee (Formed under Article 37 of the IMO Convention) at its fifty-third session held on 18 to 22 July of 2005 developed the IMO guidelines on ship recycling; where ship-owners are urged to enter into contracts with recycling facilities with the ability to maintain and monitor ships in "gas-free-for-hot-work" condition during the whole process of ship recycling (2003).

The MARPOL (Marine Pollution) Convention, 1973: The International Convention for the Prevention of Pollution from Ships is known as MARPOL (Marine Pollution) Convention which was adopted in 1973 at the IMO. It is an international legal instrument which introduces a system for the prevention of marine pollution. Bangladesh is a party to

MARPOL 73/78 with all its annexes (Karim, 2010). Bangladesh has accessed the convention but yet to ratify. Each signatory nation is responsible for enacting domestic laws to implement the convention and effectively pledges to comply with the convention, annexes, and related laws of other nations (“MARPOL 73/78” 2018). According to the Article 4 (1), any violation of the requirements of the present Convention shall be prohibited and sanctions shall be established therefore under the law of the Administration of the ship concerned wherever the violation occurs; if the Administration is informed of such a violation and is satisfied that sufficient evidence is available to enable proceedings to be brought in respect of the alleged violation, it shall cause such proceedings to be taken as soon as possible, in accordance with its law (1973). So it is urgent for Bangladesh government to take necessary steps for the proper implementation of the MARPOL convention due to upholding sustainable Shipbreaking industry.

The United Nations Convention on the Law of the Sea, (UNCLOS) 1982: Article 145 of the Convention says “Necessary measures shall be taken in accordance with this Convention with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects which may arise from such activities (United Nations Convention on the Law of the Sea 2009).” It also says about the protection of the marine environment against the harmful effects of some activities like drilling, dredging, disposal of waste, construction, pipelines and other related activities; Article 146 of the Convention also says to take necessary measures for the protection of human life and for the reason the concerned authority can adopt appropriate laws to assist existing international law. So the Convention has given power to the state parties to protect their own marine environment; whereas the concerned authority can regulate the ship breaking industries. Accordingly, there are different layers of compliance control: By exercising enforcement jurisdiction upon ships flying their flag or of their registry, i.e. by controlling and enforcing compliance with a number of specified international regulatory instruments and related standards, flag states themselves comply with their respective obligations under UNCLOS (Nordquist, Moore, and University of Virginia 1999). This United Nations Convention on the Law of the Sea covers some issues not regulated under IMO treaty instruments - for example, the jurisdictional power of the coastal State {“International Maritime Organisation (IMO)” n.d.}. However, the UNCLOS plays important role in adopting guidelines for controlling the global Shipbreaking industries.

The Basel Convention, 1989: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal was adopted on 22 March 1989 in Basel, Switzerland which came into force on 5 May 1992. It is among the most significant international environmental conventions of the past decade. It represents a systematic effort to balance the desire to ship wastes internationally with the desire to reduce the risks to health and the environment caused by the mismanagement of wastes (Murphy 1993). Three elements are crucial for the application of the Basel Convention to the issue of shipbreaking: (i) proof that the waste will not be properly dealt with by the shipbreaking country, (ii) the legal recognition that ships are waste & (iii) an established ‘intention to discard’ by the owner of the ship (M. M. Hossain and Islam 2006). According to the Convention, an exporting country must reject the export of a ship containing unsafe ingredients, if it observes that the unsafe ingredients cannot be processed in a safe way by the ship breaking industry. Environmentally Sound Management

(ESM) of recycling, whether of domestic or imported raw materials, is a goal to assure protection of human health and the environment and to avoid 'sham' recycling - final disposal of wastes masquerading as recycling (Alter 1997). The operations which do not meet with environmentally sound management system would be treated as a sham. However, the Convention text lays out in Article 4 - general obligations (its 29 Articles & 9 Annexes), the basis for inclusive management of legal environmental controls of the shipbreaking industries.

The Hong Kong International Convention, 2009: The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships was adopted at a Diplomatic Conference held in Hong Kong, China on 15 May 2009 aiming to prevent unnecessary risk to human health and safety or to the environment. It was developed by the IMO member states and non-governmental organisations with the help of ILO and the parties to the Basel Convention. The Convention addresses all the matters regarding Shipbreaking including the ships sold for scrapping and environmental conditions for ship recycling facilities. Ship recycling yards will be required to provide a Ship Recycling Plan, to specify the manner in which each individual ship will be recycled, depending on its particulars and its inventory (The Hong Kong Convention 2009). The Hong Kong Convention on Ship Recycling and other maritime agencies have all along been laying stress on some principles and guidelines in shaping up the shipbreaking and recycling industry throughout the world (Lim, Secretary General of the International Maritime Organisation 2017). According to Article 5 of the Convention, every ship has to fulfil with the survey and certification requirements suggested by the flag State; whereas the regulations 10 and 11 specify the system of survey for certifications. The ship breaking States have the responsibility to confirm that ship-recycling facilities are being conducted in accordance with the regulations of this Convention. Health safety, as well as sound and safe environment in shipbreaking industries, are enclosed in Regulations 19 to 23 of the Convention. So the Hong Kong International Convention is called the pioneer of regulating the ship breaking industries.

The European Union (EU) Ship Recycling Regulation (No. 259 of 1993): On 1 February 1993, the European Union (EU) adopted a regulation on the supervision and controls of shipments of waste within, into and out of the European Community through Regulation No. 259. Then the European Parliament prohibited the export of hazardous waste from the non-OECD countries through Regulation No. 1013 of 2006. Moreover, on 30 December 2013, the European Union (EU) amended the regulation on ship recycling which was set for

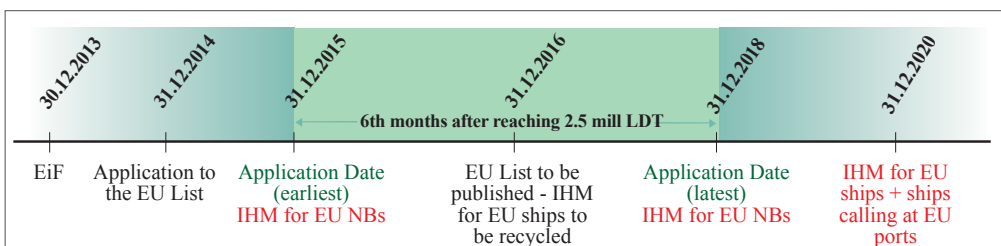


Figure 5: The planned European Union (EU) Ship Recycling Regulations ("EU Ship Recycling Regulation Update" n.d.).

the recycling of EU-flagged ships through Regulation No. 1257. The Regulation will start to work by 2019. It asks the European Commission to establish a global list of ship recycling facilities that comply with the requirements of the Regulation and requires that all ships entering EU ports have an Inventory of Hazardous Materials (IHM) onboard (“European Laws and Guidelines” n.d.). The Regulation is mainly based on the Basel Convention; where all waste including end-of-life ships as well as vessels, intended for disposal is subject to the requirement of prior notification. Furthermore, the countries related to dispatch, destination and transit have to give their prior permission to the shipment. The ship recycling regulation shall be applicable to the commercial seagoing vessels sailing under an EU flag. It will not be applicable to any warships, naval support or other ships owned by a state. The EU Member States' authorities will control European ships to verify whether they are ready for recycling certificate or they have a valid inventory of hazardous materials. After 31st December 2018, all newly built ships in the EU will be required to have an Inventory of Hazardous Materials (IHM) (Figure 5).

Although the international community and the EU have made good progress in creating a proper legislative framework for ship recycling and impressive technical expertise has been invested in the supplementing IMO guidelines and parallel ISO standards (2012). Article 13 (1) of the EU Regulation as amended in 2013 says that for being in the European List, a ship recycling facility shall comply the requirements in accordance with the Hong Kong Convention and the guidelines of the IMO, the ILO, the Basel Convention and the Stockholm Convention (EU Amending Regulation 2013). However, the member states should introduce “effective, proportionate and dissuasive penalties” to ensure proper shipbreaking.

The International Labour Organisation (ILO) Guidelines for Safety and Health in Ship Breaking: The International Labour Organisation (ILO) guidelines for Asian countries and Turkey were adopted in a meeting held in Bangkok, Thailand from 7 to 14 October 2003 aiming to ensure proper safety and health in shipbreaking industries. Cooperation among all participants helped in developing such an inclusive and practical set of guidelines which ensures to benefit all worker of the shipbreaking industry. These guidelines are issued in accordance with the other international instruments like the IMO Convention, the Basel Convention, the London Convention and the International Chamber of Shipping (ICS) industry code of practice on ship recycling. Safety and health in shipbreaking industry mean that the employer implements preventive measures to minimise risks according to the ILO guidelines. It can be through proper maintenance of workplaces, equipment, tools and machinery as well as providing health facilities. The ILO guidelines contain the system to minimise accidents, to maintain shipbreaking yard and to track chemicals. Using welding helmets, suitable eye shields and gloves are also included in the guidelines. Occupational safety and health, including compliance with the OSH requirements pursuant to national laws and regulations, are the responsibility and duty of the employer (International Labour Office 2001). The employer should show strong leadership and commitment to OSH activities in the organisation, and make appropriate arrangements for the establishment of an OSH management system (International Labour Office 2001).

The Organisation for Economic Co-Operation and Development (OECD) Guidelines for Multinational Enterprises: The OECD Guidelines were adopted by the OECD member

states in 1976. The Guidelines were updated several times. The updated Guidelines and the related Decision were adopted by the 42 adhering governments on 25 May 2011 at the OECD's 50th Anniversary Ministerial Meeting (OECD Guidelines for Multinational Enterprises, 2011 Edition). Changes to the Guidelines were to insert a new human rights chapter in accordance with the Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework (OECD Guidelines for Multinational Enterprises, 2011 Edition). The new chapter says about the States duty to protect human rights. It also says that the enterprises should be within the framework of international human rights law as well as relevant domestic law. Chapter VI (7) of the Guidelines include: provide adequate education and training to employees in environmental health and safety matters, including the handling of hazardous materials and the prevention of environmental accidents, as well as more general environmental management areas, such as environmental impact assessment procedures, public relations, and environmental technologies (OECD Guidelines for Multinational Enterprises, 2011 Edition).

The United Nations Guiding Principles on Business and Human Rights (UNGPs)

The United Nations Guiding Principles on Business and Human Rights (UNGPs) is an instrument consisting of 31 principles implementing the United Nations 'Protect, Respect and Remedy' framework on this issue of human rights and transnational corporations and other business enterprises ("United Nations Guiding Principles on Business and Human Rights" n.d.). Developed by the Special Representative of the Secretary-General (SRSG) John Ruggie, these Guiding Principles provided the first global standard for preventing and addressing the risk of adverse impacts on human rights linked to business activity, and continues to provide the internationally accepted framework for enhancing standards and practice regarding business and human rights ("United Nations Guiding Principles on Business and Human Rights" n.d.). Guiding Principle 23 provides guidance for businesses in three different situations: where national law is weak or silent, where national standards directly conflict with international standards, and where businesses face the risk of being complicit in gross human rights abuses. All three may be relevant when operating in conflict-affected areas (Davis 2012). Principle 23 clarifies that companies should respect international human rights standards wherever they operate, including seeking ways to do so when faced with conflicting requirements (Davis 2012). The guiding principles play an important role in addressing adverse human rights activities by outlining the international human rights law implications for the states which are most challenging and conflict-affected.

The International Convention on the Control of Harmful Anti-Fouling Systems on Ships, 2001: The International Convention on the Control of Harmful Anti-fouling Systems on Ships was adopted on 5 October 2001 at London. The United States of America deposited the Convention on August 21, 2012, which entered into force on November 21, 2012. That resolution A.895 (21), adopted by the Assembly of the International Maritime Organisation on 25 November 1999, urged the Organisation's Marine Environment Protection Committee (MEPC) to work towards the expeditious development of a global legally binding instrument to address the harmful effects of anti-fouling systems as a matter of urgency (Great Britain

and Parliament 2012). The Convention bans the use of unsafe organ tins in anti-fouling paints used on ships and creates a system to curb the future use of such harmful ingredients. Anti-fouling paints are used to protect the hull from algae and molluscs but it is very much harmful to the coastal ecosystem as well as human life. For such materials, the ship recycling process becomes too risky for the workers. As a result, marine life falls in great risk and the shipowner cannot sell such ship for recycling.

The London Convention, 1972: The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972, commonly called the "London Convention" or "LC '72" and also abbreviated as Marine Dumping, is an agreement to control pollution of the sea by dumping and to encourage regional agreements supplementary to the Convention ("London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter" n.d.). The Convention regulates waste disposal at sea water from vessels which entered into force in 1975. The core objective of the London Convention is to stop indiscriminate disposal of wastes which create hazards to human health and marine life. According to the Article I of the London Convention, contracting parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment, and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that 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 (The London Convention 1972).

The Stockholm Convention, 2001: The Stockholm Convention on Persistent Organic Pollutants was signed in 2001 and effective from May 17, 2004, aiming to control the manufacture and use of Persistent Organic Pollutants (POPs). It is a worldwide treaty to protect human health and the environment from the POPs. POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife ("The Stockholm Convention" 2004). The Stockholm Convention contains five important aims including (i) Eliminating dangerous POPs, starting with the 12 worst, (ii) Supporting the transition to safer alternatives, (iii) Targeting additional POPs for action, (iv) Cleaning up old stockpiles and equipment containing POPs, (v) Working together for a POPs-free future ("The Stockholm Convention" 2004). If the aims are implemented for all vessels, then after end-of-life the vessels can be recycled without harming human health.

The Rotterdam Convention, 1998: The Rotterdam Convention was adopted on 10 September 1998 by the Conference of Plenipotentiaries in Rotterdam, the Netherlands which entered into force on 24 February 2004 ("The Rotterdam Convention" 1998). It covers pesticides and industrial chemicals are banned or restricted for health and environmental reasons. Such industrial chemicals may be present within ships which should be handled carefully while breaking ships.

ISO 30000:2009 Standard for Safe and Environmentally Sound Ship Recycling: The International Organisation for Standardisation (ISO) published the ISO 30000 series of standards on management systems for ship recycling in 2009. It specifies the requirements for a management system to enable a ship recycling facility to develop and implement

procedures, policies and objectives in order to be able to undertake safe and environmentally sound ship recycling (ISO, 2011) (“Ship Recycling Practice and Regulation Today” 2011). A yard with a properly certified and implemented ISO 30000 management system can give an owner additional confidence that ships are being scrapped in full compliance with the law, and with other stakeholders views taken into account (“Ship Recycling Practice and Regulation Today” 2011). The ISO 30000 certification assures standard and transparency of the management system, the ship recycling policy, the recycling facility and the legal compliance register. So, all the requirements of this International Standard are intended to be incorporated into the management systems of any ship recycling facility (Ships and Marine Technology -- Ship Recycling Management Systems -- Specifications for Management Systems for Safe and Environmentally Sound Ship Recycling Facilities).

Domestic Laws Relating to Shipbreaking in Bangladesh

Shipbreaking is a challenging process, due to the structural complexity of the ships and the many environmental, safety, and health issues involved (Office 2004). It is a sustainable process of disposing of end-of-life vessels which can bring economic benefit and environmental welfare by providing employment opportunity and enabling ship recycling. The methods followed in the recycling processes are often suffering in some safety aspects related to the environment and workers. The legal battle between the environmentalist group and shipbreaking association even brought a temporary shutdown of all shipbreaking activities in the year 2010 for some time (Zakaria and Hossain 2013). But now Bangladesh government has enacted laws for regulating the shipbreaking industries. So that it has become a potential sector of Bangladesh. Such regulating laws passed by the Bangladesh government are being discussed below.

The Environment Court Act, 2010 (Act No. LVI of 2010): The Environment Court Act was passed in 2010 for resolving the disputes and establishing justice over environmental issues. The Act has allowed the Joint District Judge to operate as an Environment Court in addition to his regular functions. On the other hand, an Environment Appellate Court is formed with a District Judge or a District Judge can be given power in addition to his regular functions. To ensure the speedy trial is the main goal of an Environment Court. So an Environment Court can play a vital role in protecting the environment by exercising its jurisdiction over shipbreaking industries.

The Bangladesh Environment Conservation Act, 1995 (Act No. I of 1995): The Bangladesh Environment Conservation Act was passed in 1995 for conserving and developing environmental standards of Bangladesh which also helps to curb environmental pollution. It has given power to the Director General of the Department of Environment to take necessary steps against non-compliance of any provisions or directives under this law. The DoE of Bangladesh works with various issues regarding sound environment which implements the mandate of Article 18A of the Constitution of the People’s Republic of Bangladesh. Article 18A says “The State shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, biodiversity, wetlands, forests and wildlife for the present and future citizens”(The Constitution of the People’s

Republic of Bangladesh 1972). Later, the Bangladesh Environment Conservation Act was amended in 2010 (Act No. 50) which has restricted pollutions through shipbreaking. It has empowered the government to impose more penalties than before; whereas the affected persons can place objections to the concerned authority to take necessary legal actions against the polluters. Section 6 (D) of the Act says that “it will not create any environmental pollution and health hazardous by producing hazardous waste from any ship cutting or breaking which have to ensure by every ship owner, importer and user of yard in ship cutting or breaking activities {The Bangladesh Environment Conservation (Amendment) Act, 2010}.” It recommends the ship owners and ship importers to confirm that the shipbreaking process is healthy and they are not releasing any hazardous materials. According to Section 12, “no industrial unit or project shall be established or undertaken without obtaining, in the manner prescribed by rules, an Environmental Clearance Certificate (ECC) from the Director General (The Bangladesh Environment Conservation Act, 1995n.d).” So in accordance with this Act, all industries including shipbreaking industries require ECC before beginning their activities. However, the government has gotten power by section 13 and 20 of the Act to formulate relevant environmental guidelines and rules. So the government can control such industries by formulating guidelines and rules which can ensure hazardous wastes proper disposal as well as the safe environment of the shipbreaking industry.

The Environment Conservation Rules, 1997: The Department of Environment is authorised to prevent environmental pollution derived from shipbreaking activities. For the reason, the Environment Conservation Rules of 1997 was passed for exercising powers conferred under section 20 of the Environment Conservation Act, 1995. Rule 7 (1) of the Environment Conservation Rules, 1997 says that for the purpose of issuance of Environmental Clearance Certificate, the industrial units and projects shall, in consideration of their site and impact on the environment, be classified into the following four categories:- (a) Green; (b) Orange-A; (c) Orange-B; and (d) Red (The Environment Conservation Rules 1997). Whereas the shipbreaking industries of Bangladesh fall under Orange B group of the Rules but practically they should fall under the Red Category. However, there is no exact rule whether the ‘Environment Clearance Certificate’ is for the shipbreaking yard or for the ship.

The Shipbreaking and Recycling Rules, 2011: The Shipbreaking and Recycling Rules, 2011 was passed in pursuance of the Hon’ble High Court Division of the Supreme Court of Bangladesh and under section 13 & 87 of the Factories Act, 1965. Upon writ petition No. 7260 of 2008 dated May 24, 2011, the Hon’ble High Court Division passed Order with some directions regarding the shipbreaking and recycling which reflect in the Shipbreaking and Recycling Rules, 2011. The Shipbreaking and Recycling Rules, 2011 has introduced the Ship Building and Ship Recycling Board (SBSRB) under the Ministry of Industry in Rule 3 which possess the authority to provide NOC (No Objection Certificate) for facilitating LC (Letter of Credit) to import vessels for recycling. According to the Rule 9, for obtaining permission for beaching a ship, the recycler has to submit documents as per Annexure-II, to the Port Authority along with documents or certificates obtained through SBSRB (The Shipbreaking and Recycling Rules, 2011). At the anchorage, the ship would be boarded and physically inspected by Shipbuilding and Ship Recycling Board Officials and other designated members of associate departments (The Shipbreaking and Recycling Rules, 2011). Rule 13 says after

obtaining beaching permission if it is found that the particular ship is not recycled and operating as cargo vessel domestic or Ocean going to be treated as a criminal offence by the yard owner or company to whom beaching permission was granted. (The Shipbreaking and Recycling Rules, 2011). Furthermore, the ship recycling plan is essential which contains two parts as the Ship recycling plan and Ship Recycling Facility's Plan. The shipbreaking yard must have enough space for movement while cutting ship. "Gas-free and fit for hot work" certificate is also essential which is issued by the Department of Explosive for avoiding accidents concerned with fire, explosion and deficiency of oxygen. However, Rule 18 notifies that the ship recyclers are required to strictly provide the environmental compliance in line with soil, water, air under Environment Conservation Act 1995 (Act 1 of 1995 amended in 2010) and other related national environmental act or law (The Shipbreaking and Recycling Rules, 2011). So these Rules are very important for governing the shipbreaking industries of Bangladesh.

The Hazardous Wastes and Shipbreaking Waste Management Rules, 2011: The Hazardous Wastes and Shipbreaking Waste Management Rules, 2011 was passed under section 20 of the Environment Conservation Act, 1995 for managing hazardous wastes and shipbreaking waste. Many toxic materials are found in a dead ship while breaking. Such materials can be hazardous for the workers and the environment. Asbestos, while extracting asbestos workers can become the victim of lung cancer, mesothelioma and asbestosis. Mercury can damage the nervous system of the human body. Lead can cause hearing impairment and loss of vision. These are the facts behind the regulatory framework to govern the shipbreaking industries of Bangladesh. Any ships scheduled for dismantling must have clearance under Rule 19 (1) of the Hazardous Wastes and Shipbreaking Waste Management Rules, 2011 and no ships can be dismantled without such clearance (The Hazardous Wastes and Shipbreaking Waste Management Rules, 2011). To get such clearance, applicants have to disclose information regarding hazardous material including asbestos, gasohol and lubricant which may be involved in dismantling. The applicants also have to disclose detail waste management process.

The Bangladesh Ship Recycling Act, 2018 (Act No. 08 of 2018): Bangladesh is the leading shipbreaking country in the world although it has some negative impacts on the marine environment. Bangladesh has ratified many international legal instruments regarding shipbreaking activities. For implementing such instruments and controlling marine environment, the Parliament of Bangladesh has recently passed an Act named "the Bangladesh Ship Recycling Act, 2018 (Act No. 08 of 2018)" in its 19th Session of 10th parliament. Section 7 of the Act says that this Act is passed to give effect to the provisions of the Hong Kong International Convention for safe and environmentally sound recycling of ships, 2009 (The Bangladesh Ship Recycling Act, 8 2018). Section 4 of the Act has mentioned about the establishment of a zone for ship-recycling industry where Section 25 specifies that whoever establishes any shipbreaking yard without permission of the government shall be punished with imprisonment of either description for a term which may extend to two years or with fine which may extend to Taka ten to thirty lac, or with both. Section 8 of the Act was intended to constitute a new authority named "Bangladesh Ship Recycling Board" to supervise the ship recycling industry (The Bangladesh Ship Recycling

Act, 2018). Under the law, a 13-member board would be formed headed by an Additional Secretary of the Industries Ministry would administer the activities of the ship recycling industry and sit for meetings at least thrice a year. The punishment for importing a ship without No Objection Certificate (NOC) provided by the shipping ministry is imprisonment not exceeding two years or a fine which may extend to Taka ten to thirty lac or with both and the punishment for creating a fake NOC is a fine between Taka 5 lakh to 20 lakh. As per the law, the government would set up the Treatment Storage and Disposal Facility (TSDF) within three years after enacting the law for proper management of wastage produced from ship recycling.

The Bangladesh Labour Act, 2006 (XLII of 2006): Shipbreaking industry is acknowledged as an industry in Bangladesh because ‘manufacturing process’ is involved with the industry. The Bangladesh Labour Act, 2006 has defined the ‘manufacturing process’ in section 2 subsection 2(d) where manufacturing process means construction, reconstruction, repairing, finishing and breaking up of ships or vessels; whereas under section 2(61) of the Act, industrial establishment includes shipbuilding, shipbreaking and ship recycling industry. The law contains the provisions regarding service conditions, health and safety issues, daily working hours, the procedures for leave and compensation system. Under section 3 of the Act, every establishment may have its own service rules and regulations of employment but such rules and regulations must not be less favourable to any worker and under section 10, every worker will get leave of absence through written application to his employer. Every establishment must maintain a healthy and hygienic environment. Regarding disposal of waste, section 54 says that ‘effective arrangements shall be taken in every establishment for disposal of wastes and effluents due to manufacturing process carried on therein (The Bangladesh Labour Act, 2006).’ Section 100 of the Act says ‘no adult worker shall ordinarily work or be required to work in an establishment for more than 8 (eight) hours in a day: Provided that subject to the provisions of section 108 (Extra-allowance for overtime), any such worker may work in an establishment up to 10 (ten) hours also in a day (The Bangladesh Labour Act, 2006).’ Under section 150 (1), if any worker is injured by an accident while working, the authority shall pay sufficient compensation. However, any employer or worker of an industry possesses the opportunity to go to the Labour Court formed under section 214 of this Act for the enforcement of any right provided by this Act.

The Fatal Accidents Act, 1855 (Act No. XII of 1855): The Fatal Accidents Act, 1855 was enacted to provide compensation to families for loss occasioned by the death of a person caused by actionable wrong. When the death or injury of a person is caused while working, it needs to take action and recover damages. The party who is liable for such death or injury shall be sued for damages for the benefit of the wife or husband, parent and children of the deceased or injured person. The Court by its judgment or decree shall direct the defendant to pay for the damages as it thinks fit to the family of the victim after deducting all relevant costs and expenses. The provision can be applied for the shipbreaking industries too which can help the workers of the shipbreaking industries either directly or indirectly.

Judicial Verdicts in Regulating Shipbreaking Industry

A writ petition was filed in 2006 by the Bangladesh Environmental Lawyers Association (BELA) challenging the legality of the entry of the vessel M.T. Alfa ship {listed as toxic ship

by Greenpeace (2010)} into the territorial waters of Bangladesh for the purpose of scrapping before the High Court Division of the Supreme Court of Bangladesh; whereas the Court issued a Rule Nisi calling upon the respondents to show cause as to why the permission for entry of the vessel should not be declared illegal and why the respondents should not be directed take immediate steps for banning importation of toxic ships listed by Greenpeace to enter into territorial waters of Bangladesh (Bangladesh Environmental Lawyers Association (BELA) vs. Ministry of Shipping, Bangladesh 2006). The government has already banned the entry of the vessel. In March 2009, the High Court Division of the Supreme Court of Bangladesh ordered that no end-of-life vessels shall be imported by Bangladeshi ship breakers without having been pre-cleaned of hazardous materials like asbestos, PCBs, heavy metals and other toxins before arriving in Bangladesh whereas the pre-cleaning requirement will be in accordance with the domestic laws and the Basel Convention (Bangladesh Environmental Lawyers Association (BELA) vs. Bangladesh 2009). Another writ petition was filed by BELA against the cutting of trees by ship breakers from the coastal green belt of Sonaichhari, under Sitakunda Upazila of Chattogram District for the purpose of setting up of shipbreaking yards on getting the lease of Coastal Belt Area land whereas a rule was issued on 24th February, 2009 calling upon the respondents to show cause as to why the impugned lease agreement and similar other agreements to lease out lands of the coastal green belt of Sonaichhari Mouza under Sitakunda Police Station for setting up of shipbreaking yards therein shall not be declared illegal and against public interest (Bangladesh Environmental Lawyers Association (BELA) vs. Bangladesh represented by the Secretary, Ministry of Environment and Forest and 18 others 2010). The government was directed to protect the environment as well as lands through setting up Mobile Courts. The government was also directed to establish an exclusive zone for the shipbreaking industry. As per the order, the government has passed shipbreaking rules.

Recommendations for Sustainable Shipbreaking Industry

In order to fully comply with the obligations placed on Bangladesh by the international legal framework and given many negative impacts of the shipbreaking industry on the environment, existing environmental laws should be amended. Alternatively, separate legislation regulating the shipbreaking industry should be adopted to address all the environmental, labour and social aspects of the industry. Such a proposed legal framework should also clearly define the roles and responsibilities of different agencies along with the above-mentioned provisions. This is important since without a dedicated legislative framework it would be difficult to operate the shipbreaking industry in congruence with international standards and in an environmentally sustainable manner.

Apart from this, Bangladesh should immediately develop a proper authorisation and inspection system with the aim of ensuring the proper management of hazardous materials, environmental conservation and reporting procedures. Failing to develop the capacity to comply with environmentally sound management requirements in the shipbreaking industry will result in Bangladesh risking its future viability to operate the industry. This will bar other countries to export obsolete ships to a country that fail to comply with the environmentally sound management requirements.

The incorporation of the core principles of the Basel Convention through legal regulation at the national level also depends upon the capacity of the Department of Environment and other related government agencies. Particularly in Bangladesh, the fact remains that the various government departments have not taken necessary initiatives in this regard, as the organisations related with this industry chronically suffer from a lack of resources, infrastructure, equipment, and, most importantly, adequate and qualified manpower. These lacunae in the enforcement machinery need to be properly and promptly addressed.

Nonetheless, the combination of the economic attraction of shipbreaking for a least-developed country such as Bangladesh and the lack of capacity to implement an effective legal regime leads to a regulatory cul-de-sac. Bangladesh's economy, similar to other countries in South and South East Asia, still financially profits from the industry as it provides jobs and financial resources to those least developed whilst remaining highly profitable. Thus, it is not desirable for Bangladesh to fully abandon this industry. However, Bangladesh, like many other countries in the region, lacks the capacity to implement minimum standards of environmental, health and safety, which necessitates the international regulation of environmentally sound management of ship recycling, and compliance of the international standards and requirements need to be made effective and binding. Although mechanisms to provide for capacity building and technology transfer in developing states do exist under the Basel Convention, they have been rendered inadequate by a severe lack of funding.

The ability to strike a fair balance between allowing emerging economies access to the new commodity of waste and preventing environmental degradation and damage to human health is possible if changes can be made to improve the Basel Convention's operation. As waste output in developed states continues to grow and the North-South gap widens, the weaknesses of the current treaty regime must be adequately addressed in order for regulation of waste transfers to effectively balance the multiplicity of interests concerned.

Owing to corporate social responsibilities, shipping companies should send their end of life ships only to facilities that comply with the technical guidelines of IMO, The Basel Convention, and the ILO. Ship-owners, together with shipbuilders commit to the development of clean and environmentally sustainable ships in order to avoid future disposal problems. Responsible management of end of life ships must include regulation at both international and national level with due recognition of environmental, economic and social implications of international trade in hazardous waste.

Conclusion

Shipbreaking is the best way of disposing of end-of-life of a ship. Almost every parts and equipment of a ship can be reused. Particularly for Bangladesh, the industry creates thousands of direct or indirect job opportunities. The conditions of the shipbreaking yards of Bangladesh pushed the watchdogs to interfere in the industry. The Bangladesh government has taken many steps to improve the security of recycling ships. The country's parliament has passed the Bangladesh Ship Recycling Act 2018, keeping the provision of strict punishment for violations of the law. In order to comply with all obligations of the international laws, the

ship breakers should conduct scientific research within the industries. However, a first-ever green vessel named ‘Ore Vitoria’ has been beached for recycling at PHP Green shipbreaking and Recycling Yard at Sitakunda upazila in Chattogram district on 31 July 2018 (“First-Ever ‘Green Vessel’ Beached at PHP Shipyard” n.d.). It expresses the commitment of the shipbreaking industries towards green and safer recycling. The shipbreaking industries of Bangladesh should hold the international conference as well as should invite international experts related to shipbreaking to visit their shipbreaking yard regularly which can enhance information sharing opportunity. It will also help to receive global recognition for strictly obeying to national and international rules & regulations for ensuring an environment-friendly industry. Some steps should be taken by all stakeholders related to the shipbreaking industries like strictly following shipbreaking rules and regulations, the government needs to create a specific zone for the ship recycling industries which can be less costly, ensuring easy process in getting a license, No Objection Certificate (NOC) and Environmental Clearance Certificate, government may grant tax holiday for a certain period and assist the industries in purchasing the necessary technology required for shipbuilding and recycling. Finally, by developing a compulsory training system and internal scientific research program, a healthy, safe, environmentally sound and profitable shipbreaking industry can be ensured.

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