

The Arab World Jurisdiction to Prevent Marine Pollution Resulting from Ballast Water System

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Abstract

This study reviewed a very serious environmental issue caused by harmful "marine species" transferred all over the world with "Ships' Ballast Water", discussed the International Legal Response to Ballast Water Challenge highlighting the important role of "International Maritime Organization" by adoption "the international convention for the control and management of the ships' ballast water and sediments" (BWMC), and explored regulations addressing "Ballast Water" issue in some Regional Organizations which the most of the Arab Countries participated in. This study also, introduced a prospective implementation of the BWMC in the Arab Countries, explored their jurisdictions to promote Coastal Arab states' ports authority in Ballast Water Management, and presented Legal Obligations shall apply on ships entering the exclusive Economic Zone and territorial waters of the Coastal Arab states. Finally, some suggestions are introduced to the Arab countries about how to implement the Act to Prevent Pollution from Ships

Keywords: Marine species, Ballast Water, BWMC, commercial and maritime Law.

1. Introduction

To show the importance of manage "Ballast Water" Exchange, it is important to review its harmful impact on the trade in the polluted marine environment. There is little need to addressing this issue, where "All the water pollution is dangerous to the health of living organisms but sea and river pollution can be especially detrimental to the health of humans and animals, rivers and seas are used as primarily sources of portable water by populations all over the world"[1].

"In January 1991, the Ministry of Health in Lima, Peru, started receiving reports of an illness later identified as cholera"[2]. "Over the course of the next several years, the epidemic spread to all but one Latin American country, infecting at least 100,000 and killing approximately 10,000 individuals"[3]. "Evidence indicates ballast water from ships moving between Asia and South America was the most likely source of the outbreak—the first in the Western hemisphere in over a century"[4]. "Ultimately, the cholera outbreak cost Peru \$770 million, primarily as a result of trade embargoes on food and decreased tourism" [5].

Although, the release of Ballast water is "responsible for introduction of marine aquatic invasive species all over the world, but also it is essential for many functions related to the trim, stability, maneuverability, and propulsion of large oceangoing vessels"[6].

"Studies carried out in several countries have shown that many species of bacteria, plants and animals can

survive in a viable form in the ballast water and sediment carried in ships, even after journeys of several weeks duration, subsequent discharge of ballast water or sediment into the waters of port states may result in the establishment of colonies of harmful species and pathogens which can seriously upset the existing ecological balance"[7].

In one study, "shipping was responsible for or contributed to approximately 80% of invertebrate and algae introductions to North America. Of that, ballast water was a possible vector for 69% of those shipping introductions, making it a significant ship-based introduction vector" [8]. .

"(IMO) has characterized the transfer of marine aquatic invasive species (AIS) into new environments as one of the four greatest threats to the world's Marine environment, causing the harmful impacts on the efficiency of commercial, the tourism industry, and human health through diseases" [9].

1.1 International Legal Response to Ballast Water Challenge

"The potential for ballast water discharge to cause harm has been recognized not only by the International Maritime Organization (IMO), but also by the World Health Organization which is concerned about the role of ballast water as a medium for the spreading of epidemic disease bacteria", so "the international society has decided to take legal actions for prevention, minimization

and ultimately elimination the risk of the transfer of the AIS into a new environment” [9]. In 1992, “the United Nations Conference on Environment and Development called on the IMO to address the transfer of organisms by ships” [10]. “Although the IMO initially adopted guidelines for minimizing the transfer of harmful aquatic organisms in 1993, it was not until 1997 that the IMO Assembly adopted by resolution the Guidelines for the Control and Management of Ships’ Ballast Water, to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens (IMO Guidelines)”[11].

“Recognizing the limitations of the IMO Guidelines, the continuing problems with AIS, and the need for binding targets for ballast water regulation, the IMO member countries agreed to develop a binding international framework to control ballast water discharges”[12]

In 2003, “the IMO’s Marine Environmental Protection Committee (MEPC) developed and finalized the draft text for the International Convention for the Control and Management of Ship’s Ballast Water and Sediments (Ballast Water Convention)”[13]. “ The IMO subsequently adopted the Ballast Water Convention by consensus at the IMO International Conference on Ballast Water Management for Ships in February of 2004”[14].

“ There were some important occurrences which had a great impact on preparing the text of the international convention for control and management of ships’ ballast water and sediments, signed on February in 2004; in 1988 Canada informed the IMO MEPC about the problem with IAS in the area of the Great Lake; 1991 the IMO MEPC adopted the Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ships’ Ballast Water and Sediment Discharges, resolution MEPC.50(31); 1993 the IMO Assembly adopted the Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ships’ Ballast Water and Sediment Discharges, based on the Guidelines adopted in 1991, resolution A.774(18); 1994 IMO MEPC established the Ballast Water Working Group; 1997 the 20th Assembly of IMO in November 1997 adopted Guidelines for the control and management of ships’ ballast water to minimize the transfer of harmful aquatic organisms and pathogens, resolution A.868(20); 1999 Ballast Water Working Group had started to work on the international ballast water convention; and 2004 the international convention for the control and management of the ships’ ballast water and sediments was signed”[15].

- **“The International Convention for the Control and Management of Ships’ Ballast Water and Sediments, 2004”**

The “International Convention for the Control and Management of Ships' Ballast Water and Sediments” (BWM) is “the full name used by the International

Maritime Organization (IMO) to describe the rules that govern the management of a vessel’s ballast water” [16]. “The BWC was adopted by consensus at a diplomatic conference at IMO in London. The Convention consists of a main part comprised by 22 articles, 1 annex containing Regulations and 2 appendices. Article 2.2 states that the annex forms an integral part of the Convention” [17]. Where: “the articles comprise the frame of the Convention, the annex includes technical standards and requirements for the control of ballast water and ship’ sediments. The Convention is also accompanied by Guidelines, which will function as a supplement to the Convention. These are not the IMO Resolution A.868(20) guidelines but new technical guidelines developed by IMO’s Marine Environment Protection Committee to support the uniform implementation of the BWC”[18].

BWM objective: “The primary objective of the BWM is for parties to undertake certain actions in order to prevent, minimize and ultimately eliminate the risks to the environment, human health, property and resources arising from the transfer of harmful aquatic organisms and pathogens through the control and management of ships’ ballast water and sediments”[16].

• **BWM Convention status:** “At July 2005, eight countries (Argentina, Australia, Brazil, Finland, Maldives, The Netherlands, Spain and Syrian Arab Republic) have signed the BWM Convention, subject to ratification. Maldives became the first Contracting Party after depositing its instrument of ratification on 22 June 2005. The Convention will enter into force 12 months after ratification by 30 States, representing 35 per cent of world merchant shipping tonnage”[17].

“The current information on ratification is included in Table 1. Because of the slow pace of adoption, the implementation deadlines written into the Convention have become obsolete before they could become mandatory. This has required adjustments to the implementation schedule. This uncertain regulatory schedule makes it all the more difficult for owners, builders and manufacturers to plan for the necessary equipment”[19].

Table 1: “Status of Ratification of the IMO BWM Convention (As of 15 April 2011)”[19]

States	% Tonnage	Parties to the Convention:
Needed: 30	Needed: 35%	Albania, Antigua and Barbuda, Barbados, Brazil, Canada, Cook Islands, Croatia, Egypt, France, Iran, Kenya, Kiribati, Republic of Korea, Liberia, Malaysia, Maldives, Marshall Islands, Mexico, Netherlands, Nigeria, Norway, Saint Kitts and Nevis, Sierra Leone, South Africa, Spain, Sweden, Syrian Arab Republic and Tuvalu.
Currently: 28	Currently: 25.43%	

The BWM Convention “will apply to Any ship (from flag states that have ratified and also to ships entering the jurisdiction of those states) designed or constructed to carry ballast water over 400 gross tons, operating under

the flag or under the authority of a party to the Convention, as long as the ship is not solely designed for operation on the high seas, within just one jurisdiction or with ballast water in sealed tanks"[16].

1.2 Regional Legal Response to Ballast Water Challenge

In this section, the research will explore regulations addressing the Ballast Water issue in some Regional Organizations which the most of the Arab Countries participated in, and their response to the BWM Convention, such as: "The Regional Organization for the Protection of the Marine Environment (ROPME) sea area", "Red Sea & Gulf of Aden (PERSGA)", and "Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)".

1-2-1 The "ROPME" sea area

" **Participating States:** State of Bahrain, Iran, Republic of Iraq, State of Kuwait, Sultanate of Oman, State of Qatar, Kingdom of Saudi Arabia and the United Arab Emirates, and is defined as extending between the following geographic latitudes and longitudes, respectively: 16°39'N, 53°3'30"E; 16°00'N, 53°25'E; 17°00'N, 56°30'E; 20°30'N, 60°00'E; 25°04'N, 61°25'E. It is the largest recipient of ships' ballast water" [20].

"**The objective of ROPME** is to coordinate the Member States efforts towards protection of the water quality in ROPME Sea Area (RSA) and protect the environment systems as well as marine living and to abate the pollution caused by the development activities of the Member States"[20]

"Annually, more than 50,000 vessels visit this area and discharge a large amount of ballast water. The RSA is a semi-enclosed water body with intensely hot summers and short cool winters, extensive air and water temperature fluctuation and relatively high salinity. It is also characterized by high turbidity and low exchange of water with the open sea. Therefore, the ROPME has identified a need to manage and control the spread of harmful aquatic species in ships' ballast water by implementing a set of protective measures such as ballast water exchange outside the RSA"[20].

In 1 November 2009, ROPME has adopted a Notice as a regional response plane to control the transfer of AIS, "for all ships regardless of flag to regulate the exchange and/or treat all ballast water taken up outside the RSA. Ships will be required to have on board an approved Ballast Water Management Plan in accordance with the IMO standards, all the ships passing the Strait of Hormoz will be required to complete the Regional Ballast Water Reporting Form (RBWRF)"[21].

1-2-2 "PERSGA"

"The Red Sea is approximately 360 km across from east to west at its widest point and is about 1,930 km in length

from north to south. It has a total surface area of 438,000 km². The Gulf of Aden is approximately 350 km across from north to south at its widest point and is about 1,260 km from east to west. It has a total surface area of 410,000 km²"[22].

"Rapid coastal development associated with growing human usage of coastal/ marine resources, and the ever rising maritime activities through the Red Sea and Gulf of Aden, as a main east-west maritime trading route, constitute the main challenges to protection and conservation of marine environment in the region"[23].

"The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA), established in September 1995, is the coordinating body and is involved in the implementation of the Regional Convention and Protocols, and the Action Plan, PERSGA member States including Djibouti, Jordan, Egypt, Saudi Arabia, Somalia, Sudan and Yemen"[24].

"To help minimise harmful transfers caused by ships' ballast water, PERSGA is working towards the following activities" [22]:

- 1- "Legislative Review on Ballast Water Management to comply with the IMO Convention when developing national regulations".
- 2- "IMO and PERSGA organized a Workshop in Jeddah in 2005 on Ballast Water Management and Control and MARPOL 73/78. The Workshop dealt with the invasive aquatic species that move from one part of the world to another in ships' ballast water, the pollution resulting from oil being moved by ship from one area of the world to another, and with the MARPOL Convention 73/78. It specifically discussed the need for the adoption of a regional mechanism and Action Plan regarding ballast water issues".
- 3- "The GloBallast Project and PERSGA organized a three-day national training on sampling of ballast water in Aqaba, Jordan from 5 to 7 May 2014. The objective of the training was to further raise awareness about invasive alien species and the Ballast Water Management Convention and more importantly to prepare the country for the sampling of ballast water for data collection prior to entry into force of the BWM Convention".

1-2-3 REMPEC

"The objective of REMPEC is to contribute to preventing and reducing pollution from ships and combating pollution in case of emergency. In this respect, the mission of REMPEC is to assist the Contracting Parties in meeting their obligations under Articles 4(1), 6 and 9 of the Barcelona Convention; the 1976 Emergency Protocol; the 2002 Prevention and Emergency Protocol and implementing the Regional Strategy for Prevention of and Response to Marine Pollution from Ships, adopted by the Contracting Parties in 2005 which key objectives and targets are reflected in the Mediterranean Strategy for Sustainable Development (MSSD)"[25].

“BWM.2/Circ.35 has been issued by IMO to inform that a communication has been submitted from the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) regarding a ballast water management guideline in the sea area. The ships entering the Mediterranean Sea area are encouraged to apply the guidelines on a voluntary basis as from 1st January 2012”[26].

“A National Seminar on the Ballast Water Management Convention was held in Algeria between the 1 and 2 October 2013. The National Seminar highlighted the issue and the importance of regulating ships’ ballast water management with a view to preventing the introduction of these species in the marine environment. Participants from different Algerian national entities familiarized themselves with the provisions of the IMO International Convention for the Control and Management of Ships’ Ballast Water and Sediments, 2004, and exchanged views on practical aspects of the implementation of the Convention and initial preparatory action which is necessary for the eventual ratification of the Convention”[25].

2. The Prospective Implementation of the BWM Convention in the Arab World

“Because of the delay in ratifying the Convention after its 2004 adoption, certain compliance timelines provided under the Convention will either be triggered immediately upon the Convention’s coming into force or shortly thereafter. Regulation A-4 of the Convention gives a very limited right to grant extensions for compliance for up to five years, which extensions require consultation with other affected states and notification to the IMO and must specify the applicable trading routes in detail”[27].

Due to The increment in shipping and relevant huge volume of “ballast water” being discharged annually with Arab World Ports, there is little need to addressing the “ballast water” issue.

Some Examples of important Arab Ports will be discussed as follow: “Port of Fujairah complies with 2004 International Convention for the Control and Management of Ship’s Ballast Water and Sediments to prevent the spread of harmful aquatic organisms carried by ship’s ballast water; on 29 April 2013 the National Transport Authority of United Arab Emirates issued the Circular No. (5) 2013 (the Circular), stating that the ships should fulfill the terms of the international and local rules for the protection of the marine environment, as well as implement systems that prevent the pollution of seas. In this respect, the Circular envisages the adoption of various provisions of BWM Convention”[28].

“Between 2004 and 2008, on average, (21,935,077) m³ of ballast water was discharged at Ras Laffan Port and associated Single Point Moorings per year. One hundred and thirty three vessels that called at Halul Island Terminal in 2009 discharged a total of (3,325,000) m³ of

Ballast Water at the rate of approximately (25,000) m³ of Ballast Water per vessel, during 2009 the amount of ballast water discharged at Qatar Ports exceeds a total of (40,000,000) m³”[29].

“Saudi Ports Authority has published its full-year statistics for 2009, with approximately 142.30 million tonnes of cargo being handled across the Kingdom’s main ports last year, including Jeddah Islamic Port, King Fahad Industrial Port in Jubail, King Fahad Industrial Port in Yanbu, King Abdul Aziz Port in Dammam and Jizan Port”[30].

“The Suez Canal is considered to be the shortest link between the east and the west due to its unique geographic location; it is an important international navigation canal linking between the Mediterranean sea at Port said and the red sea at Suez. This importance is getting augmented with the evolution of maritime transport and world trade. The maritime transport is the cheapest means of transport, whereas more than 80 % of the world trade volume is transported via waterways (seaborne trade)”[31].

From the fact that “Areas in the Mediterranean Sea meeting the requirements of Regulation B-4.1.2 of the BWM Convention (at least 50 NM from the nearest land in waters of at least 200 meters depth, Implementation of Regulation D-1 (Coastal State))”[32], the legal interests of the (2004 BWM Convention), the applicability of implementation in the Arabic countries are discussed as follow:

According to “Article 1 defines ship as a vessel of any types whatsoever operating in the aquatic environment and includes submersibles, floating craft, and floating platforms”.

For Arabic Countries, “the Convention would apply to any vessel with dischargeable ballast water systems, including those under the small commercial register and to any floating industrial plant with a dischargeable ballast system” subject to the jurisdiction of the Arabic Countries.

According to Article (2-1) of the convention the Arabic countries will “undertake to give full and complete effect to the provisions of this Convention and the Annex thereto in order to prevent, minimize and ultimately eliminate the transfer of Harmful Aquatic Organisms and Pathogens through the control and management of ships’ Ballast Water and Sediments”.

According to Article (2-4), the Arabic countries will cooperate for the “purpose of effective implementation and enforcement of this Convention”.

According to Article (2-5), the Arabic countries will encourage “the continued development of Ballast Water Management and standards to prevent, the transfer of Harmful Aquatic Organisms and Pathogens through the control and management of ships’ Ballast Water”.

According to Article (2-8), the Arabic countries “shall encourage ships entitled to fly their flag, and to which this Convention applies, to avoid, as far as practicable, the

uptake of Ballast Water with potentially Harmful Aquatic Organisms and Pathogens" including promoting the convenient implementation of the convention. Article 3.1 provides. "The convention shall apply to":

- (a) "ships entitled to fly the flag of a Party"; and
- (b) "ships not entitled to fly the flag of a Party but

which operate under the authority of a Party".

According to the Article 3.2. "the convention shall not apply to":

(b) "ships of a Party which only operate in waters under the jurisdiction of that Party, unless the Party determines that the discharge of Ballast Water from such ships would impair or damage their environment, human health, property or resources or those of adjacent or other States"

(c) "ships of a Party which only operate in waters under the jurisdiction of another Party, subject to the authorization of the latter Party for such exclusion".

(d) "ships which only operate in waters under the jurisdiction of one Party and on the high seas, except for ships not granted an authorization pursuant to subparagraph".

The Arabic World shall demonstrate and promote programs and regulations that protect the Arabic marine environment from the transfer of AIS in "Ballast Water", with respect to "the standards set forth" in the BWM, and "associated guidance"; and shall encourage scientific researches, as convenient, on the following:

- (i) preventing the risks of "Ballast Water";
- (ii) "Ballast Water management" technical systems with specific characteristics.
- (iii) new technologies and strategies to protect the Arabic marine environment from AIS transferred with "Ballast Water".

The Arabic Countries can response to the ballast water 'challenge' by the following suggestions:

- 1- The Arabic coastal countries shall establish a unified regional center under sponsorship of IMO and become party of the convention.
- 2- The Arabic coastal countries should ratify "the IMO ballast water convention"
- 3- The Arabic countries should adopt a system of Mandatory Guidelines related to IMO.
- 4- The Arabic countries should improve a common technical Ballast Water management systems for the permanent application of the "(BWM) Convention"; and
- 5- Combine efforts with the IMO to assist developing Arabic Coastal countries in tackle the issue, through the Arabic Regional Centre.

3. Arabic Regional Centre to Improve Ballast Water Management

To enable the Arabic countries protecting their marine environment from pollution caused by the system of

Ballast Water, they shall establish a unified regional center under the sponsorship of IMO.

The Arabic Regional Centre (ARC) is working together with the Arabic "World Coast Guard" and other "interested groups" to improve strategies for "Ballast Water Management".

3.1 The main Tasks of (ARC)

The ARC will

- i. provide a survey of the "Ballast Water" issue Valuation Strategies and the regulations available to the Member States;
- ii. responsible for the implementation of the "BWM Convention's Guidelines";
- iii. Use scientific advancement all over the world to develop the Arabic industrial ports for the management of Ballast Water.
- iv. Keep in touch with IMO to contribute the important work of the Regional Seas Conventions.

3.2 The main features of Arabic Regional Centre

- 1- According to Article 2.1 – General Obligations of The (BWM) Convention, Almost all of 14 Guidelines should be incorporated into National Legislation.
- 2- All possible effort shall be made to apply the roles of (BWM) Convention of "coastal, port and flag States"
- 3- Arabic Countries "undertake to give full and complete effect to provisions of IMO Convention in order to manage ships' ballast water".
- 4- The Arabic Regional Center promotes scientific researches on "ballast water management" and encourages the Arabic Countries to co-operate and share new technologies and their scientific programs.

Conclusion

The Issue of Protection the marine environment from the pollution resulting from "Ballast Water" has been realized not only by "the International Maritime Organization", but also by the "World Health Organization". The International, Regional, and National response to this issue are discussed in this study.

Due to The increment in shipping and relevant huge volume of "ballast water" being discharged annually with Arab World Ports, there is little need to protect the Arabic marine environment from "marine aquatic invasive species" transferred with "Ballast Water".

So, The Arab Countries should do their best to control Ballast Water, some suggestions are introduced to aid the Arabic countries to implement the convention of ballast water through the establishment of unified Arabic Regional Center to facilitate

Parties to the Arabic Regional Center will benefit from:

- 1- Promote protection of their marine environment through management of Ballast Water.

- 2- Use their jurisdiction on foreign ships that enter the ports through the Unified implementation of ballast water management requirements.
- 3- Collaborating in joint research projects and practical experiences in the Environment protection against Ballast Water System.
- 4- If the Uniform international regime regarding the ballast water management requirements is applied, Shipping industry will be improved

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