MARINE POLLUTION: FROM THE PERSPECTIVE OF INTERNATIONAL LAW

Dr. ARUNA KAMMILA [1]

Introduction

Approximately 72% of the earth's surface area is covered by oceans, and therefore, by virtue of surface area covered by the marine environment, it assumes a greater significance in maintaining ecological balance on earth.[2] The life and resources beneath the ocean shapes the life of the living beings on the land in as much as the humans are not only depended upon ocean for food and nutrition but also industrial resources that shape the life on the continents. Oceans are being explored, utilised and exploited today for sustaining the energy, medicinal, transportation, commercial as well as recreational needs of the mankind. The significance and the role that the marine environment play in shaping the life on the continents cannot be overstated.

Oceans maintains the climatic and ecological balance on the earth by absorbing the sun rays falling on the earthcausing evaporation of the water in oceans, resulting in rain and therefore, providing freshwater for living organism. Marine environment also absorbs carbon dioxide from sea water and releases oxygen as by products.The mineral resources contained in the sea exceeds the amount of resources found in the land. The issue of drinking water in countries facing drinking water crisis can be solved by desalinisation of sea water.

The secrets that the depths of the ocean hold and the relationship between the life under the ocean and life on the land has just started unfurling. The precious resources that the oceans hold had made them vulnerable to scientific exploration for maximising the yield thereby leaving the states in stiff competition with each other to commercially explore and exploit the marine resources to the detriment of the marine environment. Along with the exploration arose a misconception amongst the humans that the oceans were ultimate dumping ground for the pollutant and that this can solve their problem of waste dumping on the land. However, indiscrete and indiscriminate dumping of the

[1] Assistant Professor Damodaram Sanjivayya National Law University, Visakhapatnm, Andhra Pradeshm aruna1415@gmail.com, 9177569903
[2]Steven J. Moore, *Troubles in High Seas: New Era in the Regulation of U.S. Ocean Dumping*, 22 ENvTL. L. 913, 916 (1992)

pollutants in the ocean for several decades resulted in severely jeopardising the marine ecology and biodiversity.

The intimate relationship which the land ecology had with the marine ecology only came to the light when polluted marine environment in lieu effected the life on land severely. The introduction of the pollutants in the sea results not only in the habitat destruction but also ecological damage resulting into depletion of oxygen, pH imbalance[3] and biostimulation.[4] Furthermore, eutrophication is caused when nutrients from the pollutants cause accelerated growth of the microscopic plants.[5] Overtime the organisms consume the pollutant derived nutrients leading to disease. The problem is further aggravated when successive levels of food chain consumes these contaminated organisms.[6]The poisoning of the minamata bay is a classic example of the relationship that the life on land shares with the life on sea.

It was only after the evidences that came to the light pertaining to the effect that disruption of the marine environment and ecosystem had on the life on the land, that the scientific community and the states came to the realise that there was a need of more awareness towards the oceans environmental and ecological health. Overfishing, oil spills, indiscriminate dumping of industrial pollutants, unsustainable and environment unfriendly exploitation of marine resources destroyed the marine biodiversity and it was the need of the hour to adopt more scientific oriented approach towards the exploration and exploitation of the marine resources.

The growing concern of the states to address the deterioration of the marine environment such as loss of biodiversity, pollution, protection of whales and other endangered species etc. has made significant and remarkable contribution in the development of international law. The international law pertaining to the conduct of the states in the use of oceans provides a foundation as well as direction towards affirmative actions that should be taken by the states towards improving the conditions of the oceans.

---

[3] *Id*. at 921
[4] *Id*. at 921-22
[5] Christopher C. Joyner, *Biodiversity in the Marine Environment: Resource Implications for the Law of the Sea*, 28 VAND. J. TRANSNAT'L L. 635, 641 (1995).
[6] *Id*. at 641

Defining and Outlining the Problem

For the states to effectively combat the issue of the marine pollution it becomes imperative to propound a universally acceptable definition of marine pollution and thereafter only the anti-pollution rules and regulations can be effectively implemented. In this light some of the existing definitions that are provided under the conventions, treaties, domestic laws as well as provided by the jurists are analysed in this section.

Ocean pollution has been defined by Brown[7] in the following words:

> *"Introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) resulting in such deleterious effects as harm to living resources, hazard to human health, hindrance to marine activities including fishing, impairment of quality for use of sea water and reduction of amenities."*

The definition provided by Brown can be further read with the definition of harmful substances as provided in "***The International Convention for the Prevention of Pollution from Ships, 1973"***[8] (hereinafter **MARPOL**)for a holistic understanding of the phenomenon of marine pollution. MARPOL does not define the term pollution, however, the elements of the pollution such as discharge and harmful substances has been defined. Harmful substance has been defined as:

> *"any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substance subject to control by the present Convention".*[9]

[7] E. D. Brown, *International Law and Marine Pollution: Radioactive Waste and Other Hazardous Substances*, 11 Nat. Resources J. 221 (1971).Available at: https://digitalrepository.unm.edu/nrj/vol11/iss2/2[Last accessed on 11/09/2020]
[8] 12 I.L.M. 1319, Nov. 2, 1973
[9] *Id*. at, Article 2(2),

The "***Paris Convention for the Prevention of Marine Pollution from Land Based Sources, 1974"***[10]defined the pollution of the marine environment in the following words:

> *"the pollution of the maritime area through watercourses, from the coast, including introduction through underwater or other pipelines, from man-made structures placed under the jurisdiction of a Contracting Party within the limits of the area to which the present convention applies or by emissions into the atmosphere from land or from man-made structures."*[11]

The definition provided under the Paris Convention was very narrow in its scope and application as it defined pollution only with respect to the pollution of the coastal waters upon which the states had the right to exercise jurisdiction. It was silent upon the pollution caused by the states in the high seas. The "***United Nations Convention on the Law of Seas, 1982"***[12] (hereinafter **UNCLOS**), United Nation's ground breaking effort in extending the international law to the conduct of the states with respect to the issues related to the use of ocean and sovereignty defines the marine pollution in the following words:

> *"Pollution of the marine environment is the introduction by human, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results, or is likely to result, in deleterious effects. These effects could be harm to living resources and marine life; hazards to human health; hindrance to marine activities, including fishing and other legitimate uses of the sea; impairment of quality of sea water; and reduction of amenities*."[13]

[10]13 ILM 352 (Paris Convention) 519, 526
[11]*Id*. at Article 3 Paragraph (c), Available at https://treaties.un.org/doc/Publication/UNTS/Volume%201546/volume-1546-I-26842-English.pdf[Last accessed on 10/09/2020]
[12]21 I.L.M. 1261, Nov. 26, 1982
[13]*Id*. at, Clause 4

The definition provided under Clause 4 of the UNCLOS 1982, necessarily reiterated the definition provided by Brown and has been largely accepted by the states. However, the definition falters when it comes to balancing the marine ecology with the interest of the developing states that are engaged in extensive exploration and exploitation of the natural resources for achieving a pedestal that the developed states have already achieved through the same intensive exploitation of the marine resources. In such an event, providing a definition that balances the marine ecology with the interest of the states has proven to be a difficult task and as such there is no consensus even amongst the jurist with respect to the definition of the marine pollution. However, definition provided under the UNLCOS is the most widely accepted definition of the marine pollution.

Tracing the Legal Developments

In the third decade of the twentieth century, there were several instances of oils spills in the high seas which drew the attention and concern of states such as the Unites States. United States was the first country that recognised the implications oils spills had on the marine environment and therefore, advocated for a solution that prohibited the discharge of oil in the sea. Such advocacy was way ahead of its time.[14] A draft convention was prepared pursuant to a conference in 1926, which sought to establish zones near the coast where the spilling of the oil would be prohibited.[15]No concrete framework could be established in the draft convention, however, it paved a way for future initiatives and dialogues.

In 1954, the British Government took the initiative to protect the marine environment and called a conference which was attended by 42 states. London Convention,[16] first of its kind multilateral convention aimed at the protection and conservation of the marine environment, and was ratified by the 20 states. The convention was premised upon the zonal concepts that prohibited the discharge of oil to 50 miles from the coast.[17] Even in the zones that were established, there was no blanket prohibition of the discharge of the

[14]Ludwik A. Teclaff, *International Law and the Protection of the Oceans from Pollution*, 40 Fordham L. Rev. 529 (1972).
[15] Final Act of the Preliminary Conference on Oil Pollution of Navigable Waters, Annex, art. I, [1966] 1 Foreign Rel. U.S. 238, 245 (1941).
[16] 3 U.S.T. 2989, T.I.A.S. No. 4900, 327 U.N.T.S. 3.
[17]*Id*. at Article 1

oil under the convention, but merely, reduced the amount of oil that could have been discharged in these zones. The amendment of 1962 did not make any effort to impose a blanket ban on the discharge of the oil but extended the zone to 100 miles thereby making the prohibition more stringent.[18] A further amendment in 1969, discarded the zonal concept and instead limited the amount of oil that could be discharged into the per litre sea water. However, discharge should be made as far as possible from the land and for some oil bearing ships the limit was 50 miles from the coast.

The London Convention dealt with only one kind of pollution and did not take into consideration the issue of dumping pollutants, or conducting of nuclear tests in the seas and disposing of nuclear pollutants. The Convention also made no provision for intervention or surveying of the after effects of the oil pollution. Torrey Canyon oil spell, considered to be the world's worst case of oil spill highlighted the failure of the convention due to the lack of any provision for affirmative action in such instances. However, The London Protocol that came into effect in 2006, prohibits the disposal of all kinds of waste and material in the sea.

The 1954 convention dealt with only one form of pollution, a trend which seems to have been followed by the subsequent conventions such as the "***Geneva Convention on the High Seas, 1958***,[19]**"**and focussed more precisely on the pollution caused due to the discharge of oil. However, the 1958 Convention also made provision regulating the dumping of the radioactive material havinghazard properties more specifically radioactive waste in the high seas. The dumping of the radioactive waste in the sea itself was not prohibited until and unless it affected other states. However, there was no generally accepted standard as to what quantity constituted and amounted to effecting other states and therefore, the states such as the United States and Great Britain and continued to dump the radioactive waste in the high seas.

To curb the pollution of the high seas caused due to indiscriminate dumping of the radioactive waste as well as due to nuclear experiments such as weapon testing, Nuclear Test Ban Treaty, 1963 was signed by 120 states which sought to achieve the discontinuance of all kinds of test explosion of nuclear weapons at any place in its jurisdiction including under water, territorial water, or high seas, if such explosion was

[18] 2 U.S.T. 1523, T.I.A.S. No. 6109, 600 U.N.T.S. 332
[19] 450 UNTS 11, 13 UST 2312

to cause radioactive debris.[20] The convention did not prohibit conducting of the nuclear tests underground, thereby failing in its objective as the nuclear radiation may leak to the underground water causing environmental degradation. It also failed to prohibit dumping of other toxic waste that may have more harmful effect than the radioactive waste. Furthermore, not all the states possessed the nuclear capabilities when the treaty was signed and such the potentiality of harm always remained.

In 1971 the **"*Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof*"**was adopted by United Nations General Assembly. The ratifying states of the treaty recognised that the sea bed and the ocean floor should be used for peaceful purposes only and mankind had common interest in its exploration. The treaty was aimed at preventing nuclear race on the sea bed and ocean floor in order to maintain world peace. The states were under direct obligation to not place weapons of mass destruction or nuclear arms at the sea bed or bottom of the ocean.[21] However, there was no provision to either prohibit or regulate the passage of submarines carrying nuclear weapons thereby, revealing that the convention was not applicable to the territorial seas. The dumping of the pollutants by the ships in the course of its voyage or release of toxins and toxic waste by the aircrafts in the ocean, causing pollution was another issue that needed to be addressed by the states. To curb the pollution of the marine environment caused by the ships and aircraft,"***Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, 1972"***[22]was adopted by the states. The Convention was aimedat safeguarding the marine environment from the pollution that arises out of dumping toxic pollutants from the ships and aircrafts. However, the convention recognised the sovereign rights of the state to dump the toxins in the event of the force majure. In the absence of the specificity as to what constitute force majure, the states can take advantage of this exception to justify the dumping of toxins.[23]

[20] Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, done August 5, 1963, [19632 2 U.S.T. 1313, T.I.A.S. No. 5433, 480 U.N.T.S.
[21] 23 U.S.T. 701, T.I.A.S. No. 7337 (effective May 18, 1972), Article 1
[22]11 ILM 262, Apr. 7, 1974
[23]2 GREGORIOS J. TIMAGENIS, INTERNATIONAL CONTROL OF MARINE POLLUTION.Oceana Publications, 1980

The London Convention, 1954 despite its amendment in 1962, 1969 and 1971 proved to be insufficient to deal with the consequences of the instances of severe oil spills such as Torrey Canyon. Due to insufficiency and growing instances of the cases of oil spills, the International Maritime Organisation (IMO) called for a conference of the states to prevent the pollution caused from the ships and tankers carrying petroleum or non-petroleum products. The conference culminated into MARPOL Convention, 1973 and replaced the London Convention, 1954. The aim and purpose of the MARPOL Convention was to completely ban the deliberate pollution caused by the oil or by discharge of the pollutants into the sea by the ships and to further reduce the accidental spills of oil by the ships. However, the convention was not made applicable to the warship, naval ships that were used by the states for non-commercial purposes. Furthermore, the convention had same exceptions that were provided under the London Convention, 1954 and the technicalities in the compliance of the provisions of the convention were often burden on the poor and developing countries.

The actions of the states to combat the marine pollution were premised on the fact that oil spills and radioactive waste was only responsible for the pollution and therefore, the convention and treaties were only restricted to the regulation of the oil discharge and dumping of the nuclear waste. It was only in "***United Nations Conference on the Human Environment Stockholm, 1972"***that a comprehensive environmental awareness in international law was envisioned. The Stockholm convention was the direct result of the growing concern of the states with respect to the population boom, environmental degradation and the exhaustion of the natural resources. As a result the Declaration set forth broad principles that later on became cornerstone of international environmental law. Principle 22 addresses and recognises:

> *"the sovereign right of states to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction"*[24]

[24] 11 I.L.M. 1416, June 16, 1972, Principle 21

The Stockholm Convention was the significant milestone in the journey of the states to protect the environment through sustainable development by judicious use of the natural resources. However, for all its ambitious objectives, no substantive action was taken by the states. This could be attributed to the fact that the interest of the developed nations could not be balanced with that of the developing nations despite best efforts. The developing nations wanted to maintain the exploitation of the natural resources for economic growth whereas, the developed nations viewed the exploitation of natural resources as their diminution, resulting in degradation of the planet.

The establishment of the United Nations Environment Program, a subsidiary organ of the United Nations that monitors environmental conditions as well as implements projects through facilitation of various international and national environmental initiatives was the most significant achievement of the Stockholm Declaration.

The UNCLOS1982, which codified the existing law of the seas to finally emerge as the Constitution of the Oceans, was the result of the negotiations and the efforts of the states in that started from 1958 in form of Convention on the law of seas, most commonly referred as UNCLOS I, and continued in UNCLOS II, 1960 and UNCLOS III, 1973. The law of the sea was governed by the prevalent customsuntil the mid-twentieth century, i.e. before the international conference held in 1958 resulting in UNCLOS I, where the existing customs of sea were codified into four conventions pertaining to territorial sea & contiguous zone[25], high seas[26], continental shelf[27] and conservation of living resources on the high seas.[28] The convention did not yield any fruitful result as the states fail to come to consensus with respect to the width of the territorial sea. The states did not reach to any consensus even in UNCLOS II, 1960. It was only in UNCLOS III, 1973 that the negotiations started that lasted for more than 8 years and ultimately resulted in UNCLOS.

UNCLOS is so comprehensive in its scope that it deals with and regulates almost all the uses of the ocean along with making the provisions for addressing the issue of pollution

[25]Convention on the Territorial Sea and Contiguous Zone, OS—29 April 1958, EIF—10 September 1964, 516 UNTS 206
[26]Convention on the High Seas, OS—29 April 1958, EIF—30 September 1962, 450 UNTS 11
[27]Convention on the Continental Shelf, OS—29 April 1958, EIF—10 June 1964, 499 UNTS 311
[28]Convention on Fishing and Conservation of the Living Resources of the High Seas, OS—29 April 1958, EIF—20 March 1966, 559 UNTS 285

of the oceans. *"Protection and Preservation of the Marine Environment,"* is specifically provided under Chapter XII that includes not only general obligations but also specific obligations that the states must discharge to prevent, reduce and control the pollution of the marine environment. As per Article 192 of the UNCLOS, the *"States have the obligation to protect and preserve the marine environment"*however, the states also have the "*sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment."*[29]

The UNCLOS has contributed to the in regulating the conduct of the state parties to take affirmative action and collective responsibility towards the prevention of the marine environment from pollution by not only fixing the breadth of the territorial sea, which has been subject to contention in the previous conventions but also designated the zones in the oceans so that the interest of the coastal states could be balanced with the need of the maritime states. The designated zones carry with themselves rights and obligations with respect to the marine conservation. UNCLOS has segmented the ocean into three zones namely viz. territorial waters extending up to 12 nautical miles from the coast, Exclusive Economic Zone (EEZ), which is adjacent to the territorial waters and extends to 200 nautical miles and High Seas, which is adjacent to the EEZ. As the maritime zones progresses towards the sea ward the rights of the coastal states to explore and exploit natural resources decrease and the rights of the other maritime user's increase.

The coastal states enjoy the sovereign rights and jurisdiction over territorial waters. A coastal state is entitled to explore and exploit the natural resources that are found in the territorial waters as well as make regulations to govern the conduct of the other states in the territorial waters. The Coastal statecan enforce the laws pertaining to protection of the marine environment in the territorial waters to the detriment of the other maritime states as other states have no right but for right to *"innocent passage"* in the territorial waters.

[29]*Supra* Note 11, at Article 193.

The coastal state has, *"sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters super adjacent to the seabed and of the seabed and its subsoil . . ."*[30], in EEZ, therefore, the coastal states also enjoy the power to enforce the laws pertaining to the preservation and protection of the marine environment in its jurisdiction. UNCLOS imposes obligation on the states to judiciously exploit the natural resources in the EEZ by determining the threshold of allowable catch of the living resources for maximising sustainable yield, so that there is no over exploitation.[31] The optimum utilisation of the natural resources is also mandated upon the states without prejudice to the obligation of judicious exploitation of the living resources. However, balancing both the objectives has proven quite difficult by the states.

The rights that have not been reserved by the coastal states expressly may be exploited by the maritime states in the EEZ. For instances the maritime states have freedom of navigation, to lay communication cables, or submarine pipelines, over flight etc. However, certain rights can only be exercised by the maritime states with express consent of the coastal states.[32]Coastal states have power to exercise jurisdiction over the polluters pursuant to their environmental protection laws. High seas falls beyond the jurisdiction of the states as it is *"the global commons"*and all the states have equal entitlements when it comes to the exploration and exploitation of the resources found in high seas, subject to due regards to the provision of UNCLOS. These rights include and are not limited to such as fishing, navigation, scientific research & exploration, laying of communication cables etc. In the absence of the power of the states to exercise jurisdiction, begs the question, as to who will determine the threshold of mining of resources in the high seas for instance, determining the threshold of allowable catch while fishing? The right of fishing in high seas is subject to the treat obligation of the states with each other.[33] A state may enter into treaty with states in the region for determining the allowable catch in the manner that advances optimum utilisation of resources and sustainable development while balancing it with the management and conservation of the natural resources at the high seas.

[30]*Id*. at Article 56.
[31]*Id*. at Article 61.
[32]*Id*. at Article 56 & 61.
[33]*Id*. at Article 116.

The onus to prevent the pollution in the high seas and punish the polluter falls on the flag state. The flag state jurisdiction is well recognised principle under the UNCLOS and international law, even otherwise and the flag state is always under the obligation to regulate the activities on board the vessel. However, a grave problem is posed when the flag state does not prescribe stringent pollution control standards thereby, rendering the attempts to prevent the marine environment from pollution.

The general obligations of the state to protect the marine environment and prevent it from getting polluted are further laid down under Chapter XIII of the UNCLOS. The chapter specifies four major sources of pollution which are release of toxic substances, pollution from vessels, pollution from installation and devices that are used from the purpose of exploration of sea and pollution from other devices that are operational in the marine environment. [34] The states are under obligation to, *"take all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using . . . the best practicable means at their disposal and in accordance with their capabilities."*[35]

UNCLOS by far has proved to be an effective legal instrument in regulating the conduct of the states so that the marine environment can be protected and prevented from pollution by assigning collective responsibility to the states for judicious of the natural resources.

Conclusion

Thesevere deterioration of the marine environment due to pollution is not the recent phenomenon, only the realisation that oceans are not limitless dumping ground is recent. Humans have been dumping millions of tons of trash, sewage sludge, and chemical, industrial as well as radioactive waste in the ocean purposely with the conception that ocean can amass anything. These activities brought the marine environment and biodiversity to the brink of collapse. Due to the misconceptions associated with the profound depth of the oceans, the international response started taking shape only by the end of the twentieth century.

[34] *Id*. at Article 194 (3).
[35] *Id*. at Article 194.

The regulatory framework in the place that recognises oceans as the global common which should be explored and exploited judiciously for the benefit of the living being falters when the interests of the states, in particular, interest of the developing nations is to be balanced with the interest of the developed states. The developing nations see the indiscriminate exploitation of the natural resources as the mean to achieve economic growth, whereas the developed nations view the exploitation as their diminution, resulting in degradation of the planet.

The developing nations find it detrimental to their economic interest in terms of cost hat has to be incurred while adhering to the complex regulatory framework. These states find themselves in the peculiar spot while catering to the need of the over growing population with the ever diminishing land resources and had to turn to the resources that are offered by the ocean. Maximising yield as well as promoting sustainable development while conserving and protecting marine environment is proving difficult for the developing states.

The issue with enforcement of any legal instrument having character of international law is that it is always trumped by the sovereignty of a state. In such an event, it is virtually impossible to devise a mechanism that can create a deterrent to the states that do not adhere to the regulatory framework and are engaged in marine pollution. Imposition of sanctions, blockades, international ridicule does a very little to dissuade a state from causing pollution. Several jurists have also advocated for imputing criminal liability to the states causing pollution as the consequences of the pollution on the humans, animals and the environment are almost as severe as that of international war crimes. However, due to the cost implication and complex nature of proving criminal responsibility in the environmental crimes as it requires extensive investigation dissuades states from pursuing criminal proceedings. States prefer to pursue civil action against the offender as it only involves the commission of tort.

Nevertheless, the ratification of the legal instruments designed to protect the marine environment and prevent marine pollution, in particular UNCLOS, by the states, is the evidence that states are concerned towards the issue of marine pollution and are willing to strive towards affirmative actions and collective responsibility for ensuring sustainable development along with the protection of the environment.