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MARINE ENVIRONMENT PROTECTION IN THE EEZ

Introduction

The pollution of the marine environment could be caused by different sources both at land and sea. Day by day, life sustaining capacity of the ocean is diminishing. The idea that the vast ocean would take care of itself irrespective of the extent of pollution has proved to be a fallacy. Fishery has come under increased pressure due to swelling population of the earth. There has been decline of fishing because of pollution in some fishing grounds.¹ In an age of dwindling resources, we cannot ignore the impact of pollution in the production of living resources.

The oil spill incidents in the sea such as the Torrey Canyon in 1967 and Amoco Cadiz in 1978 showed the dreadful effect of oil pollution on marine environment. All over the world deep concern was expressed for protection of the marine environment. However, the international law in the field of controlling marine pollution was at a nascent stage at that time. The international law had not yet approved the exercise of jurisdiction other than that of the flag state.

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¹ *The State of World Fisheries and Aquaculture*, FAO Fisheries Department, Food and Agriculture Organization of the United Nations, Rome 1995, p. 8.

Jurisdiction of the flag states over their own vessels has proved to be ineffective in checking pollution of the marine environment.

The issue of pollution of the marine environment became more salient when at the Third United Nations Conference on the Law of the Sea (UNCLOS III), the coastal states were provided with the 200 miles of Exclusive Economic Zone (EEZ). At the Conference there was an agreement among states to provide coastal states with jurisdiction to control pollution in their EEZ but there were differences on the extent of jurisdiction of the coastal states and how they would be exercised. The issue of state responsibility was indeed very contentious. At the Conference on the Law of the Sea, the developed states wanted the developing states to share with them the responsibility of controlling marine pollution while the developing states did not want to share greater responsibility lest it slowed down the pace of their development. The developed states agreed to share the main burden on marine pollution. It settled the primary approach in dealing with the marine pollution.

The article describes the EEZ and also the threat to its marine environment. It discusses the issues on marine environment that were raised during the conference. The legal implication of the issues is also discussed. Would state responsibility to control marine pollution be shared in equal manner? How would coastal states exercise their jurisdiction to control marine pollution in their EEZ? These questions will be addressed. Measures to control marine pollution in the EEZ of Bangladesh as taken by the Bangladesh government in its EEZ are examined. The proceedings of the Rio summit and the Earth Summit + 5 are also covered in this article.

Exclusive Economic Zone and Marine Pollution

At the Caracas session of the Third United Nations Conference on the Law of the Sea, many states were overwhelmingly in favour

of the EEZ.² The delegate of Kenya was first to coin the idea. In the year 1994 a total of 92 states had claimed EEZ. The EEZ of 200 miles has become a customary international law. The majority of states who had claimed EEZ were developing states.

At the Third United Nations Conference on the Law of the Sea, developed states were against national enclosure.³ They were only ready to accept preferential right of fisheries. On the other hand, developing countries sought the entire resources. The land locked and the geographically disadvantaged states also wanted preference to fisheries in the zone. A compromise was struck. In the EEZ, coastal states were given sovereign right to explore, exploit, conserve and manage the natural resources in the superjacent water, the seabed and subsoil of its EEZ. Coastal states *inter alia* have jurisdiction for scientific research, and to protect and preserve the marine environment. These jurisdictions are given to protect the natural resources of the EEZ. Coastal states have power to enforce its laws on marine pollution within the zone.

The EEZ was given a *sui generis* status so that it is neither high seas nor a territorial sea. Although coastal states gained control over the natural resources in the EEZ, other characteristics of the high seas remained intact. Freedom of navigation and overflight, freedom of laying submarine cables and pipelines and international lawful uses of the seas concerning such freedom are retained by other states.

Sovereign rights over EEZ was given to coastal states to avoid the 'tragedy of commons' in the high seas. Because freedom of fishing in the high seas, fisheries in the high seas are plagued by

² Takeo Iguchi, "The New Law of the Sea (UNCLOS III) and the Major Issues, Law and International Affairs", *Journal of the Bangladesh Institute of Law & International Affairs*, Vol. 13, Nos. 1 & 2, 1990, p. 49.

³ Shigeru Oda, "International Control of Resources", *Sijthoff Nordecht*, 1979, p. xxxvi.

the area under national jurisdiction. EEZ concept has made this overfishing. Fishery resources were depleted due to absence of access restrictions in the high seas. It made fishing in the high seas uneconomical. In some fishing grounds, it caused the extinction of fisheries. Unlimited access such as high seas fishing is now denied in possible.

In the EEZ, sovereign right of coastal states has been limited. Coastal states have been imposed with the duty to maintain the resources. They cannot endanger the fisheries by over-exploitation as they are required to conserve and manage the same. Coastal states with the exception of certain cases are required to obtain maximum sustainable yield.

Coastal states cannot waste the fishery resources if they are unable to harvest the entire allowable catch. They must fully utilize the fishery resources of its EEZ. They are obliged to allocate the surplus fisheries that they are unable to harvest to other states. When distributing the surplus, the coastal states have to take into account the rights of traditional fishing states and the rights of the land locked and geographically disadvantaged states.

Protection and Preservation of the Marine Environment

Conservation and management measures for fishing are dependent, to a great extent, on the preservation of the ecosystem of the Ocean.⁴ Overfishing is considered as an environmental threat so is the destruction of the marine habitat in which fish lives.⁵ A preserved environment not only helps to enhance reproduction but also maintains ecological balance which ensures quality of marine life. Canada was

⁴ Oscar Shacter and David Serwer, "Marine Pollution Problem and Remedies", *American Journal of International Law*, Vol. 65, 1971, p. 87.

⁵ Excessive discharge of pollutants from industrial source in the West coast of India has caused fish famine effecting 6,000 traditional fishermen. See, R A Malviya, "Marine Pollution Control an Appraisal" in P.L. Leelakrishna (ed.), *Law and Environment*, EBC Publishing (P) Ltd. Luknow 1992, p. 223.

the pioneer in extending pollution control jurisdiction. In 1970 it first adopted the Arctic Waters Pollution Prevention Act to preserve the Arctic environment from pollution. For pollution control Canada claimed jurisdiction over ocean and sea up to a distance of 100 miles from its shore.⁶ Ships using the zone were required to conform to the design and safety standards and civil liability provided against pollution. Since the UNCLOS III, the movement for the protection of the environment including marine environment has become global, yet irresponsible use of resources continues to make the earth's environment vulnerable.

Protection and preservation of the marine environment⁷ through the curbing of different types of pollution from various sources was the prime objective at the Conference. The issue of assigning state responsibility⁸ was a highly contested matter at the Conference. When the developed states wanted a universal minimum standard for the prevention of pollution from land based sources which accounted for 80% of ocean pollution, the developing states resisted.⁹ According to the developing states, for centuries the developed states were the main pollutants, and it is they who should bear the main burden of preventing pollution. While the developed states wanted uniform international responsibility for all states, the developing states at the

⁶ Leigh Ratiner, "The Law of the Sea, United Nations and Ocean Management" in Lewis M. Alexander (ed.), *The Proceedings of the 5th Annual Conference*, The Law of the Sea Institute, Rhode Island, Kingston, p. 307.

⁷ Once the adoption of the Convention and Treaty making are over, the emphasis of the IMO is now on the implementation and enhancing existing rules concerning marine ships, navigation, maritime transport, emergency pollution preparedness etc.

⁸ Douglas M Johnston, "Facts & Value In The Prevention and Control of Marine Pollution" in W Michael Reisman and Burns H. Weston (eds.), *Towards World Order and Human Dignity*, The Free Press, New York, 1976, p. 547.

⁹ *Ibid.*, p. 548.

conference emphasized that a global standard requiring costly measures would restrain their economic growth.¹⁰ Although the developing states agreed that preventive measures should be framed entailing responsibility when others are harmed, they advocated a double standard in compliance with international responsibility.¹¹ They contended that the obligation of a state should be in accordance with its level of economic development and its economic and monetary ability.¹²

In the Convention (CLOS), in accordance with the wishes of the developing states, a double standard was incorporated in respect to international responsibility for prevention of pollution.¹³ The coastal states were given the power to exercise their sovereign right to exploit natural resources relying on its environmental polices. Sovereign right was qualified by the duty to protect and preserve the marine environment.¹⁴ However, the duty to take measures to prevent, reduce and control (PRC) pollution is made dependent upon the capabilities of each state¹⁵ which differ from state to state, and as such damage to the marine environment was not completely prohibited. The Convention has provided differential standard for developing countries in the case of pollution from land based sources, activities in the area and dumping.¹⁶

¹⁰ Allan Kirton, "Developing Country View of Environmental Issues" in Edward Miles and John King Gamble Jr. (eds.) *Law of the Sea: Conference Outcomes and Problems of Implementation*, Ballinger Publishing Company, Cambridge, Massachusetts, 1977, p. 280.

¹¹ Terry Leitzell, "Law of the Sea Briefing: Reflections on the Caracas Session of the United Nations Law of the Sea Conference", *Occasional Paper Series*, Law of the Sea Institute, University of Rhode Island, Kingston, December, 1974, p. 18.

¹² *Ibid.*, p. 280.

¹³ The Rio Earth Summit envisages allocation of fund to developing states to control pollution.

¹⁴ Article 193, CLOS p. 70.

¹⁵ Article 194 (1), CLOS p. 70.

¹⁶ C.K. Chaturvedi, *Legal Control of Marine Pollution*, Deep and Deep Publications, New Delhi, 1981, p. 110.

Instead of mandatory provisions the Convention laid down general principles to prevent, reduce and control' pollution of the marine environment¹⁷ which would enhance environmentally sustainable uses of the ocean.¹⁸ This is also expected to be attained through pollution control jurisdiction of the coastal states in the EEZ which has furthered the cause of the environmentalists. However, pollution control would still be problematic as it is not possible to exercise private property rights over land.¹⁹

The structural scheme of the protection of the marine environment rests on the principle of self-restraint, right to protection and universal third party enforcement. The Convention provided obligation upon states to protect and preserve the marine environment.²⁰ The Convention imposes a duty upon all states to ensure that activities within their jurisdiction or control do not result in damage by pollution to other states and their environment and to ensure that activities within their jurisdiction or control do not intrude beyond the areas within which they exercise sovereign rights.²¹ Pollution from the use of new technologies and motivated or unmotivated release of alien or new species in the ocean which could cause unprecedented changes are required to be checked.²²

Pollution measures in the 1958 Geneva Convention on the High Seas protected only the concern of the world community and were restricted to high seas and limited to a few areas. On the other hand, the

¹⁷ Ann L. Hollick, *US Foreign Policy and the Law of the Sea*, Princeton University Press, New Jersey, 1981 p. 309.

¹⁸ Lester R. Brown, Christopher Flavin, Sandra Postel (eds.), *Saving the Planet: How to Shape an Environmentally Sustainable Global Economy*, W W Norton & Company, New York, 1991, p. 12.

¹⁹ Thomas, J. D'Alonzo, "The Mirage of Sustainable Development", *The Futurist*, September-October, 1993, p. 15.

²⁰ Article 192, CLOS p. 70.

²¹ Article 194 (2), CLOS p. 70.

²² Article 196, CLOS p. 71.

comprehensive environmental law of the CLOS protects coastal states, as well as the interest of the world community. It covers the entire marine environment²³ and reaches the entire spectrum of the pollution including acid rain.

Vessel Source Pollution

The provision on prevention, reduction and control of the marine environment embodies not only the general obligations of the states in respect to marine pollution²⁴ but also the limit and the scope of the laws that are to be enacted by the coastal states which could reflect on the exercise of free navigation.²⁵ Untenable laws or misuse of power could restrict access to the EEZ.²⁶ Vessel source pollution was another contentious area in which the conference was divided. Coastal states like Canada proposed standard setting authority to prescribe and enforce pollution laws over vessels in the EEZ.²⁷ On the other hand, maritime states wanted very little control of the coastal states over vessels. They were worried that if the coastal states were given power to prescribe and enforce jurisdiction for pollution control over the 200 miles of EEZ, it could lead to transformation of the 200 miles zone into a territorial sea.²⁸ Germany and Greece opposed providing enforcement

²³ Tommy T.B. Koh, "Negotiating a New World Order for the Sea" in Frederick E. Snyder and Surakart Sathirathai (eds.), *Third World Attitudes Toward International Law*, Martinus Nijhoff Publisher 1987, p. 730.

²⁴ Article 192, CLOS p. 70.

²⁵ Alan E Boyle, "Marine Pollution under the Law of the Sea Convention", *American Journal of International Law*, Vol. 79, 1985, p. 362.

²⁶ W. Riphagen, "Some Reflections on Functional Sovereignty", *Netherlands Yearbook of International Law*, Vol. VI, 1975, p. 141.

²⁷ Ann L Hollick, *US Foreign Policy and the Law of the Sea*, Princeton University Press, New Jersey, 1981, p. 310.

²⁸ Terry Leitzell, "Law of the Sea Briefing: Reflections on the Caracas Session of the United Nations Law of the Sea Conference", *Occasional Paper No: 24*, The Law of the Sea Institute, Rhode Island, Kingston, December, 1974, p. 36.

power to coastal states for arresting vessels on violation of pollution laws.²⁹ In order that an agreement satisfactory to all could be reached it was essential that a good dispute settlement mechanism be incorporated in the Convention.³⁰

At the Law of the Sea conference some developed coastal states desired to establish their own standards for ship generated pollution measures.³¹ Canada and Australia proposed that if the international standards are inadequate, coastal states, on the basis of scientific criteria, could apply more stringent standards to the design and construction of the vessels, severe hazards to navigation or danger to marine environment exist.³² The developing states, although keen on protecting their sovereign rights, did not lend support to the conveying of power to the coastal states to impose design and construction standards over vessels.³³ These attempts to acquire jurisdiction over the construction and design of vessel to protect fisheries resources in the EEZ from pollution were defeated³⁴ as the Convention does not allow coastal states to exercise jurisdiction over construction, manning or equipment of vessels, even in the case of exercising protective measures in exceptional circumstances. Coastal states can not exercise jurisdiction over of vessels, exercising the right of innocent passage in the territorial sea unless it violates the generally accepted international

²⁹ *Ibid.*, 20.

³⁰ *Ibid.*, p. 36. See Article 297 (1)c, CLOS p. 102.

³¹ Louis Henkin, *How Nations Behave, Law and Foreign Policy*, Pall Mall Press, London, 1968, p.219.

³² E.D. Brown, The Prevention of Marine Pollution by Oil from Ships & Competence to Establish Standards and Competence to Enforce Standards, *Current Legal Problems*, Vol. 28, 1975, p. 215.

³³ Ann L Hollick, *US Foreign Policy and the Law of the Sea*, Princeton University Press, Princeton, New Jersey, 1981, p. 309.

³⁴ D. P. O'Connell, I. A Shearer (eds.), *The International Law of the Sea*, Vol II, Oxford, 1982, p. 996.

rules and standards. This has ensured free navigation of vessels and free movement of goods.

With regard to curbing pollution in the EEZ (including vessel source) which encompasses pollution element, the Convention has opted for international standards instead of national standard.³⁵ These standards are set by diplomatic conferences such as those adopted by the International Maritime Organization (IMO).³⁶ In 1954, the former IMCO had established Oil Pollution Convention which has relied on 'prohibited zone' of 50 miles from the coast.³⁷ The 1954 Convention has been overruled by the 1973 Convention for the Preservation of Pollution from Ships which covered not only oil pollution but also discharge of noxious substances, and sewage and garbage.³⁸ Apart from these, there exists a range of regional agreements to control pollution. By opting for international standards, which coastal states are required to adopt and establish through competent international organization and diplomatic conferences, the door is wide open for disputes between coastal states and other states in regard to not only what is the present international standard but also to the interpretation of its scope and nature.³⁹ There is a requirement that these standards should be in accordance with the CLOS. The CLOS has laid down the general principles and framework for pollution control of the marine environment and prescribes international rules and standards adopted

³⁵ Tommy T. B. Koh, "Negotiating a New World Order for the Sea", Frederick E. Snyder and Surakart Sathirathai (eds.), *Third World Attitude Toward International Law*, Martinus Nijhoff Publisher, Dordrecht, 1987, p. 725.

³⁶ C. Ajith Kumar, "Marine Oil pollution: International Control" in P. Leelakrishnan (ed.), *Law & Environment*, EBC Publishing (P) Ltd. Lucknow 1992, p. 212.

³⁷ Boleslaw A. Boczek, "International Protection of the Baltic Sea Environment against Pollution, A Study in Maritime Regionalism", *American Journal of International Law*, Vol. 72, 1978, p. 795.

³⁸ *Ibid.*, p. 795.

³⁹ Article 1 (c), CLOS p. 102.

by competent international organization. Due to this the determination of applicable international law in this field would be uncertain.

There are two objectives which would be fulfilled by the prescription of international rules and standards. First that the coastal states do not usurp greater authority than those prescribed second, that there is a level below which rules and standards for taking environmental measures do not fall rendering the protection of the marine environment inadequate.⁴⁰ While conservation and management regulations could prohibit fishing activity, they cannot restrict the movement of vessels other than the fishing vessels or fishing vessel in transit in conformity with the laws of coastal states. Some of the pollution caused by vessels (e.g. large oil tankers) in passage is most damaging to the fishery resources. The Torrey Canyon incident in 1967 along the coast of Britain, the Amoco Cadiz incident in 1978 off the coast of Brittany in France under flag of convenience⁴¹ and Exxon Valdez in 1989 off Alaska are reminiscent of marine accidents causing great harm to the marine environment. Apart from oil pollution, nuclear hazard posed by nuclear powered vessels⁴² and vessels carrying nuclear materials and other dangerous chemicals requires special measures for protecting the marine environment but received less elaboration.⁴³ Similarly dumping⁴⁴ of dangerous substances and operational dis-

⁴⁰ Terry Leitzell, "Law of the Sea Briefings, Reflections on the Caracas Session of the United Nations Law of the Sea Conference", *Occasional Paper*, No. 24, The Law of the Sea Institute, Rhode Island, Kingston, December, 1974, p. 19.

⁴¹ Joseph Modeste Sweeney, Covey T. Oliver, Noyes E. Leech, *Cases & Materials on The International Legal System*, The Foundation Press Inc., New York, 1981, p. 149,

⁴² It is likely in future there would be an increase in the number of nuclear powered vessels and incident involving such vessels may prove disastrous to the marine ecosystem.

⁴³ Arvid Pardo, "The Convention on the Law of the Sea; A Preliminary Appraisal" in Fredrick E Snyder and Surakart Sathirathai (eds.), *Third World Attitude Toward International Law*", Martinus Nijhoff, Dodrecht, Publisher, 1987, p. 740.

⁴⁴ Article 210, CLOS p. 74.

charges from the vessels contribute to pollution to a great extent. It is reported that ballast discharge from ships often results in introducing species devouring sea animals and poisonous planktons in a new marine environment.⁴⁵

In the EEZ, coastal states cannot set their own standards as 'right to protection', but can adopt generally accepted international rules and standards for prevention, reduction and control of pollution only for enforcement purposes.⁴⁶ The jurisdiction over vessels in its EEZ to control pollution is not available *per se* since the flag states exercise jurisdiction over the vessel. Only when a vessel violates the anti-pollution laws of the coastal states in the EEZ giving effect to international standards that a coastal state can exercise jurisdiction over the vessel. However, the jurisdiction is to be exercised in the prescribed manner such as fulfilling procedural requirements of procuring information to determine whether violation has occurred. When there are clear grounds for believing that substantial discharge or threatening significant pollution⁴⁷ was caused, it could inspect the vessel for gathering evidences. If the vessel has committed violation causing major damage or threat of major damage to the coastline or marine resources in the territorial sea and the EEZ of a coastal state through discharge, it could institute proceedings against the vessel on the basis of objective evidence if the evidence so warrants.⁴⁸

Only in exceptional circumstances such as in the event of extreme climatic changes threatening ecological balance,⁴⁹ the coastal state,

⁴⁵ Ntasha Brown, "Veracious pests invade seas in ships' ballast water", *The Daily Independent*, (Dhaka), 31 May, 1995, p. 10.

⁴⁶ Article 211 (5), CLOS p. 75.

⁴⁷ 220 (1) (6), Part XII, Section 6. CLOS p. 79.

⁴⁸ Article 220 (6), CLOS p. 80.

⁴⁹ Ann L Hollick, *US Foreign Policy and the Law of the Sea*, Princeton University Press, New Jersey, 1981, p. 310.

upon permission from competent international organization, can establish stringent mandatory rules against vessels in the specified area of the EEZ.⁵⁰ To avail of this opportunity of departure from the general rule of free navigation in the EEZ coastal states are required to forward technical reasons concerning oceanographic and ecological conditions including utilization and protection of its resources and the specific mode of traffic.

Flag State and Port State Jurisdiction

In prevention, reducing and control of pollution, the Convention does not do away with the jurisdiction of the flag state⁵¹ which exists concurrently with that of the coastal states. Flag state could exercise jurisdiction when grave damages occur if the coastal state decides not to enforce the jurisdiction.⁵² As a measure of self restraint, it ensures the protection of the marine environment by requiring vessels of its nationality and registry to comply with international and national rules while in the EEZ of another coastal state and enforce such rules in the event the coastal state does not do so. Flag states are required to ensure that their vessels do not set out in the sea without complying to the required international rules and standards, especially relating to design, construction, equipment and manning of vessels.⁵³

In the Convention, the interest of the maritime states in limiting the jurisdiction of the coastal state was reflected because of the need to protect navigational interest. Enforcement of anti-pollution measures has traditionally remained with flag states and such states are reluctant

⁵⁰ Article 211, CLOS p. 75.

⁵¹ Flag state jurisdiction is the authority the States exercises upon a vessel which flies its flag or is registered with it because of existence of a genuine link between the States and the vessel.

⁵² D.P. O'Connell, I. A Shearer (eds.), *The International Law of the Sea*, Vol. II Oxford, 1982, p. 995.

⁵³ Article 217 (2) CLOS p. 78.

to allow other states to exercise jurisdiction even within the national jurisdiction of the latter. For the first time, the Convention has not only provided the coastal states jurisdiction to prevent, reduce and control of pollution but also provided a system of international policing for PRC through universal third party enforcement jurisdiction when harm is done not to the port state but to some other coastal state.⁵⁴

Under the universality principle, the Convention has also included the Greek proposal of port state enforcement jurisdiction where a port state could, on the basis of request from other states and after investigation, enforce jurisdiction over vessels causing pollution beyond its maritime zone.⁵⁵ The port state could take action *suo moto* if the violation has occurred in the high seas or if the vessel, having voluntarily entered in its port off shore terminal, is likely to cause pollution in its internal waters, territorial sea or the EEZ.⁵⁶

In the provision of the convention on pollution the developing states have figured prominently. Developed states are required to provide scientific and technical assistance to developing states⁵⁷ as they do not have access to advance technology especially to detect, reduce and identify source of oil pollution.⁵⁸ International organizations are also obliged to provide preferential treatment to developing states in prevention, reduction and control of marine environmental pollution and their minimization.

⁵⁴ Tommy T.B. Koh, "Negotiating a New World Order for the Sea" in Frederick E Snyder and Surakart Sathirathi (eds.), *Third World Attitudes International Law*, Martinus Nijhoff Publisher, Dordrecht, 1987, p. 725.

⁵⁵ Article 218, CLOS, p 78.

⁵⁶ Article 218 (2), CLOS, p. 79.

⁵⁷ Article 202, CLOS, p. 72.

⁵⁸ Oscar Schachter and Daniel Serwer, "Marine Pollution Problems and Remedies", *American Journal of International Law*, Vol. 65, 1971, p. 94.

Principles of International Law

The provisions relating to pollution of the marine environment reflect the principle of customary international law of International Responsibility which lay down the nature of obligation established in the Chorzow Factory Case where the Permanent Court of International Justice had stated that ..."it is a principle of international law, and even general conception of law, that any breach of an engagement involves an obligation to make reparation." The Convention also provides that in the event of non-performance of the obligations, reparation for the damage done will be made in accordance with international law.⁵⁹ The obligation to make reparation is based on the concept of the international duty to take care. According to the draft article of the International Law Commission on State Responsibility, marine pollution from the atmosphere or seas is an international crime as it is a serious breach of obligation of essential importance for the protection and preservation of human environment.⁶⁰ When the actions of a state carried out in pursuance of its sovereignty cause extra-territorial harm, the principles of absolute sovereignty could not be relied upon.⁶¹ The sovereignty of other states affected by such actions must be taken into account.

Most of the international rules and standards which the Convention provisions require to be made applicable have been framed on the basis of objective responsibility, i.e., any breach of rules would *prima facie* entail responsibility, whether there is fault or not. However, subjective elements are not altogether removed and these would appear in matters of evidence such as the general incidence of burden of proof. In the CLOS, liabilities fall on the wrong doer in accordance with the

⁵⁹ Article, 235 (1), CLOS, p. 84.

⁶⁰ Article 376, I.L.C. Draft Articles on State Responsibility, D. J. Harris, *Cases & Materials on International Law*, Sweet & Maxwell, London, 1983, p. 376.

⁶¹ Gunther Handl, "Territorial Sovereignty and the Problem of Transnational Pollution", *American Journal of International Law*, Vol. 69, 1975, p. 55.

international law on violation of obligation on pollution of the marine environment of the coastal state.⁶² However, the Convention, instead of framing actual liability regime, requires states to co-operate to implement existing international law liability regime as well as develop them.⁶³ It is true that liability regime providing protection exists in international law such as, (a) The International Convention for the Prevention of Pollution from Ships 1973, (b) The International Convention Relating to Intervention at the High Seas in Cases of Oil Pollution 1969⁶⁴, (c) Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, 1972, (d) The 1971 Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, (e) The 1969 International Convention on Civil Liabilities for Oil Pollution, (f) TOVALOP and (g) CRISTAL exists under such circumstances yet remedy is handicapped because of limited membership. The Convention for the Protection of the Marine Environment of the North East Atlantic as a regional treaty provides for stringent measures to control marine pollution. Although it does not deal with vessel source pollution, some of its provisions raise the question of compatibility with the CLOS. The CLOS, by adopting international rules and standards as the basis for responsibility and liability, has incorporated the 'due care standard' in international law as enunciated in the Corfu Channel Case.⁶⁵ Albania failed to notify the users of the strait the presence of a minefield, neither did it warn British warships of imminent danger.⁶⁶ Three British warships struck mine and suffered damage.

⁶² Article 235, CLOS, p. 84.

⁶³ Article 235, CLOS, p. 84.

⁶⁴ The US on February 4, 1974 enacted US Intervention on the High Seas Act to take action for certain damage from pollution arising from collisions, strandedness and other navigational incidents.

⁶⁵ Oscar Schachter, "The Emergence of International Environmental Law", *Journal of International Affairs*, Vol. 44, No. 2, Winter 1991, p. 487.

⁶⁶ Corfu Channel Case, United Kingdom V Albania, ICJ 1949, *Annual Digest & Reports of Public International Law Cases*, Vol. 16, Year 1949, p. 158.

With the continual increase of marine disasters in the absence of liability regime, the need to develop preventive and precautionary measures has become acute.⁶⁷ The preventive measures include setting mandatory construction standards requiring double bottom for ships to withstand the impact on getting grounded, whereas precautionary measures could include providing coastal states with power to determine sea worthiness of sea going vessels. Harm of pollution from fishing vessels is not so great as it is in case of oil tanker or ballasting of vessels, but participation of large number of fishing vessels could pose special pollution problems and may require deployment schemes.

The Rio Conference and CLOS

The declaration on environment and development made at the end of the United Nations Conference on Environment and Development held at Rio De Janerio from 3-4 June, 1992 is known as Rio Declaration. The provisions of the Agenda 21 relating to the protection of the marine environment does not deal with the jurisdictional competence of the coastal states. The Agenda 21 was prepared as plan of action to protect and manage the global environment. The Third United Nations Convention on the Law of the Sea sets out the framework within which the nature and forms of functions of the states are spelled out.

On the other hand, the Agenda 21 is an objective oriented plan based on the Convention provisions. It was prepared keeping in view the persisting problems that faced the marine environment. Agenda 21 specifies in detail the actions that should be taken to attain the objectives. It also contains the estimate of the expenditures that need to be disbursed to support the recommended measures. The Agenda

⁶⁷ C. K. Chaturvedi, *Legal Control of Marine Pollution*, Deep & Deep Publications, New Delhi, 1981, p. 101.

21 has introduced some new approaches that include the concept of sustainable development. It is the *raison d'être* of the plan of action. The measures that are recommended by the Agenda 21 are all encompassing in nature. These measures are to be implemented depending upon the capabilities of states. The Agenda 21 has used the strategy of degradation of the marine environment. On the other hand, the CLOS has used the strategy of the pollution of the marine environment. This suggests that the application of the measures is not confined to introduction of substance and energy by man in the marine environment. It also covers erosion of land that causes destruction of the marine environment.⁶⁸

The declaration refers to the Law of the Sea as referred to in the Agenda 21⁶⁹ as the basis for safeguarding and sustainable development of the marine and coastal environment and their resources. Although non-binding, it envisages new approaches whose content is integrated and parameter precautionary and anticipatory.⁷⁰ In the Rio declaration attention was given *inter alia* to the potential development of marine living resources for fulfilling human nutritional needs together with economic and social development by strictly following maximum sustainable yields (MSY), avoiding wastage and relying on selective fishing gear. Towards this end, focus was given especially to straddling and highly migratory species. Provisions were made for treaty arrangements for the protection of these stocks as well as their categorisation and sustainable management.⁷¹ However, the concept of large marine eco-system to manage stocks within EEZ and beyond was

⁶⁸ Paragraph 17.31 Chapter 7, A/Conf.151/4 (Part I), United Nations Conference on Environment and Development, Rio De Janeiro, 3-14 June 1992 p 143..

⁶⁹ Agenda 21 was adopted by 152 nation at Rio De Janeiro, Brazil on June 14, 1992.

⁷⁰ *Ibid* p. 130.

⁷¹ A/Conf. 15/26 (Vol II) 13 August, 1992. United Nations Conference on Environment and Development, Rio De Janeiro 3-14, June 1992, p. 145.

not favoured.⁷² It was figured that between 1993 and 2001 US \$200 million would be required annually for marine protection and management. US \$ 12 million would be needed for the High Seas Marine Resources programme and actions.⁷³

In regard to sustainable use and conservation of marine living resources under national jurisdiction, coastal states, especially developing states and states whose economy is primarily based upon the exploitation of living resources of the EEZ are called upon to attain maximum economic and social benefits from the sustainable utilization of marine living resources to fulfill human nutritional needs together with their social, economic and development goals. They are also required to respect the knowledge and interests of local communities, small scale artisanal fisheries, and indigenous people when adopting policies on marine environment.

Regarding marine environmental protection, states are called upon to prevent, reduce and control degradation of marine environment by applying preservation, precautionary and anticipatory approaches to minimise long term risk of adverse consequences. They are to make sure that prior evaluation of activities are undertaken to check adverse consequences upon environment (environmental assessment report). Protection of environment should be integrated with general environmental, social and economic development policies.⁷⁴ It was estimated that \$ 540 billion would be required to realize the Agenda 21 programme and the developed states had decided to allocate 0.7% of their GNP for supporting it. Out of this, the developing states would get \$ 125 billion as grant and loan on concession terms.⁷⁵

⁷² William T. Burke, "UNCED and the Oceans", *Marine Policy*, November, 1993, p. 522.

⁷³ Agenda 21. See, also, Daniel Sitarz (ed.), *The Earth Summit Strategy to Save Our Planet*, Earth Press 1993 p. 151.

⁷⁴ *Ibid.*, p. 136.

⁷⁵ *Ibid.*, p. 310.

Marine Pollution in the EEZ of Bangladesh

Bangladesh has proclaimed an EEZ of 200 miles measured from the baseline of its territorial sea. It has not ratified the Third United Nations Convention on the Law of the Sea yet. It is expected that Bangladesh as and when it ratifies the Convention would enact detailed laws to protect the marine environment of its EEZ. These laws shall be in conformity with the CLOS provisions and principles of international law.

Bangladesh is on the threshold of development. All materials including oil that Bangladesh needs are mainly transported by sea. There is a great risk of pollution of the marine environment due to oil spill and ballast discharge from ships. One of the biggest oil spills occurred in the history of Bangladesh when 100 tons (a meager amount compare to the international oil spill incidents) of crude oil leaked from a Liberian flag tanker M.T. Filothei off the Kutubdia island on 24 September, 1989. The oil tanker was conducting lightering operation. After the incident dead fish were found off the Kutubdia island. Although the incident occurred not far from the EEZ it had long term effect over it. The threat to marine life from such oil slick is great since Bangladesh lacks the technology to clean up the pollution.

Cairn Energy plc, a UK based oil company made a successful finding of Sangu gas field off the Chittagong coast. It is going to exploit the gas field with the partnership of Shell Oil company. The estimated gas reserve in the Sangu gas field is around 8,481 billion cubic feet. The gas field is located in the EEZ of Bangladesh about 50 kilometers South West of Chittagong (91 degrees 3 minutes East Longitude and 21 degrees 1 minutes North Latitude). The initial exploitation of 106 million cubic feet per day of natural gas would begin from April 1998. The market price of the gas would be 2,12,000 US dollar per day. Later the production of the gas would nearly get doubled. The Cairn Energy plc. has followed the World

Bank guideline to prepare the Environmental Impact Assessment study. It has planned to replace the boat based drilling platform with a permanent conventional type four leg straitjacket drilling platform. The platform would stand 25 meters above the shallow water. The rig would be unmanned having fully computerized system. Apart from the drilling rig, ware barges, supply boats and safety boats are in service. Collisions in heavy seas, grounding of vessels and discharge of oily substances from ships could cause pollution. More companies are going to explore for oil and gas in the Bay of Bengal in the near future. Pollution of the marine environment could be caused by dumping from oil and gas platforms as well as by exploration drilling.

There is threat to marine environment from the discharge of industrial waste and poisonous effluents from the Chittagong city into the Bay of Bengal. The transport of hazardous materials by ship is always a threat to the marine environment as accidents could occur at any time. Foreign vessels dumping or incenerating hazardous wastes in the EEZ of Bangladesh can not be ruled out.

An important element in the protection of marine environment in the coasts of Bangladesh is the Bangladesh Coast Guard which was set up in 1994.⁷⁶ The function of the Bangladesh Coast Guard is to make inquiries when there is an occurrence of a threat to marine environment and protect the marine environment of Bangladesh against pollution. It is not properly equipped to undertake this task. At present it is performing the task with two small sea going patrol boats borrowed from the Bangladesh Navy. It should be expanded, modernised and its personnel should be trained to carry out enforcement actions. Along with other relevant agencies, it should have the technology to clean up major oil spills to redress damage.

⁷⁶ Act No XXVI of 1994. See, *Dhaka Law Reports*, Vol. 47, 1995, p. 14.

It is learned that in 1996 a US Air Force aircraft arrived in Bangladesh to take part in the maritime surveillance exercise with the Bangladesh Air Force. The visit was renewed in 1997. Maritime surveillance of marine pollution is beneficial to detect and assess oil slicks. Bangladesh should promote bilateral as well as multilateral co-operation with other states to control marine pollution in the EEZ. The competence to conduct marine scientific research by Bangladesh is at a rudimentary stage. It should establish modern scientific centre on oceanography, marine biology, marine fisheries and environmental science with foreign technical assistance. It should approach international organization to develop its marine scientific and technical capabilities.⁷⁷ Bangladesh should closely work with other states to put in place crisis management system by setting up prearranged oil pollution combating equipments to clean up oil slicks in the EEZ.⁷⁸

So far the policy planners have ignored protection of the marine environment. They should plan programmes to conduct scientific studies to assess and monitor the degradation of the marine environment of the EEZ. Bangladesh could avail Global Environmental Fund facilities (GEF).

In 1974, Bangladesh enacted an enabling legislation to prevent and control marine pollution. Its goal are to preserve and maintain ecological balance of the marine environment.⁷⁹ No detail regulations to control marine pollution from different sources have yet been enacted by Bangladesh.

⁷⁷ These international organizations are FAO, IAEA, ICAO, IHO, IMO, IOC, UNEP, UNESCO, UNIDO, WHO and WMO.

⁷⁸ See Article 6(1)a, International Convention on Oil Pollution Preparedness Response and Co-operation 1990, *Law of the Sea Bulletin*, Vol. 18, June 1991, p. 41.

⁷⁹ Section 6, Territorial Waters and Maritime Zones Act 1974, Act No XXVI 1974, 26 *Dhaka Law Report*, 1974, p. 180.

An environment policy was adopted in 1992 by the Bangladesh government.⁸⁰ The rationale behind the policy is to have a sound environment policy for Bangladesh. The national policy was made with all the good intentions to protect the marine environment but it lacks teeth because of the absence of implementation legislation. The policy provides for the development of sound environment and the conservation of the coastal and the marine eco-system. It does not look at the problem in terms of different sources of pollution that endangers the marine environment but contains only general pronouncements. It does say about the control of internal and external pollution of the coastal state environment.

In 1995 the Bangladesh government had legislated an Act for the protection and control of the marine environment. It is primarily an act whose purpose is to regulate land based pollution of the environment. There are no specific provisions relating to marine environment. Certain provisions of the act such as the designation of ecologically critical area could be made applicable to marine environment. The invocations of its provisions to the EEZ in many instances would cause international standards to be exceeded.

The Department of Shipping (Sea Transport) of the Ministry of Shipping has prepared a draft Act to protect marine pollution in the territorial sea and the EEZ. The draft Act proposes to regulate pollution from ships, floating and permanent structures at sea, as well as pollution from land based sources. The Department of Shipping is specified as the controlling authority under the Act. The draft Act is based on the principle of "polluter pays" imposing fines and requiring polluter to furnish cleaning costs.

⁸⁰ Mohiuddin Farooque and S. Rizwana Hasan, (eds.), *Environment Policy : Laws Regulating Environment in Bangladesh*, 1992, p. 732..

Conclusion

The Earth Summit + 5 held as a special session of the General Assembly ended in New York on 28 June, 1997. The main objective of the summit was to make an assessment of the progress made since the Rio Summit (1992). It also aimed to renew the commitments that were made towards the implementation of the objectives drawn at the Rio Summit. The goal of achieving sustainable development was set at the Rio summit. It is to be noted that in the field of conservation of resources and environment progress made so far was slow but noteworthy progress was made. It included the adoption of the UN Implementation Agreement Relating to the Conservation and Management of the Straddling Fish Stocks and Highly Migratory Fish Stocks 1995, FAO Code of Conduct for Responsible Fisheries 1995, and Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels in the High Seas 1993. The progress that was desired to protect the marine environment could not be made due to the reluctance of the developed states to provide funds that was promised to developing states. The Third United Nations Convention on the Law of the Sea has required the developed states to assist the developing states in the development of the marine scientific and technological capabilities relating to the marine environment. However, the response of the developed states was far from what was anticipated. At the Earth Summit + 5 developing states were apprehensive of the inactiveness of the developed states towards them. The developing states made a call upon the developed states to double the size of the Global Environmental Facility Fund.⁸¹ The World Bank administers the current 2 billion dollars funds.

It is the duty of all states to give effect to the provisions of the Convention on protection of marine environment and to adhere to its commitments. Since developing states have to rely upon their natural resources they can ill afford to pollute their marine environment. However, it is an irony of fate that it is they who cannot afford to take costly environmental protection measures.

⁸¹ *Economist*, June 28 - July 4, 1997, p. 49.