CHAPTER THREE

LEGISLATIVE MECHANISM TO PROTECT AND PRESERVE MARINE ENVIRONMENT IN INDIA

The legislative mechanism in the environmental parlance presupposes a legislation which defines the general form of the environmental program. It involves specifying the vision, goal and the objectives of the environmental program in question and further outlines the mechanisms for delegating power and as the situation may be the financial aid to a lead agency or coordinating body. It would not be out of place to understand what is meant by legislation or by "law of the land". Legislation or "statutory law" is law which has been promulgated or "enacted" by a legislature or other governing body. Justice is the concept of moral rightness based on ethics, rationality, law, natural law, religion, fairness, or equity. Law is said to have arisen as a spontaneous order. It is something which was discovered rather than enacted. Law being an evolutionary system, this process has involved the historical experiences of successive generations to be come what it is today.

Law is a system of rules, usually enforced through a set of institutions. It shapes politics, economics and society in numerous ways and serves as a primary social mediator of relations between people. Law is that which is laid down, intended, or established. Writing in 350 BC, the Greek philosopher Aristotle declared, "The rule of law is better than the rule of any individual." The theory and philosophy of law is known as Jurisprudence. There are various meaning attributed to law in the general usage. Law is a rule or method according to which phenomenon or actions co-exist or follow each

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2 Ibid.
3 http://en.wikipedia.org/wiki/Law#cite_ref-5, accessed on 04.05.11.
other. Law, in its generic sense, is a body of rules of action or conduct prescribed by controlling authority, and having binding legal force.\(^4\)

That which must be obeyed and followed by citizens subject to sanctions or legal consequences is a law. Law is a solemn expression of the will of the supreme power of the State.\(^5\) The “law” of a state is to be found in its statutory and constitutional enactments, as interpreted by its courts, and, in absence of statute law, in rulings of its courts.\(^6\) With this prelude it can be put forth that Law is an effective means for translating environmental policies that incorporate global, regional and national priorities, concerns and practices, into action.

The oceans are vital to human existence with their promise of mineral wealth, food supply productions of off shore gas and oil and as a medium international transportation, communication and commerce. They are international commons with the responsibility of their well being on all the surrounding nations. The world’s oceans provide the greatest interface with the earth’s atmosphere, digesting carbon dioxide, releasing oxygen, and affecting weather in a thousand known and unknown ways.\(^7\)

The oceans are being exploited as never before. The initial rise of the globalized economy, which began in mercantilist Europe, can be attributed in large part to unimpeded ocean transit. Activities unknown barely few decades earlier are in full swing around the world and India is no exception. There has been a tremendous increase in industrial and development activities globally; this overexploitation has been one of the major root causes of the depletion of marine resources. Pollution of the world’s marine environment therefore is rightly voted as a major ecological crisis on the earth. Pollution in an environment can be said to occur when concentrates of various chemicals or biological constituents exceed a level at which a negative impact on ecosystem or human health can occur. The marine environment is facing a

\(^5\) Calif.Civil Code, §22.
\(^7\) Rahman, M. Habibur, \textit{Legal Regime of Marine Environment in the Bay of Bengal}, (2007).
number of pressures because of rapid rise in the coastal population, economic and industrial growth.

Oceans and humans are inextricably linked: our activities on land, sea, and in the air impact the health of the oceans and the health of the oceans impact us. Imbalance in the health of Oceans can threaten or benefit human health just as humans can threaten or benefit ocean health.

In the twentieth century the sea became a significant legal issue. There were further developments in this field. The landmark change was ushered by the United Nations through the medium of the International Law Commission which convened a conference in 1958 which came to be known as the Geneva Conventions or United Nations Conventions on Law of the Sea, (UNCLOS-I). The UNCLOS provided, for the first time, a universal legal framework for the rational management of marine resources and their conservation. The UNCLOS establishes a comprehensive legal framework to regulate all ocean space, its uses and resources. It contains, among other things, provisions relating to the territorial sea, the contiguous zone, the continental shelf, the exclusive economic zone and the high seas. The protection and preservation of the marine environment under Part XII of the United Nations Convention on the Law of the Sea (UNCLOS), 1982, provides a comprehensive legal framework for controlling the serious degradation of the marine ecosystem. The legal regime for the protection and preservation of the marine environment was further strengthened by the United Nations Conference on Environment and Development adopting Agenda 21, Chapter 17 of which contains a comprehensive programme of action for

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8 The League of Nations Conference for the Codification of International Law (1930, The Hague) dealt with the breadth of the territorial sea, the contiguous zone, the high seas, the continental shelf, fishing and the conservation of living resources but no agreements resulted from it. It was not until the end of the Second World War in 1945 when the freedom of the high seas came to be seriously questioned.

9 UNCLOS also provides for the protection and preservation of the marine environment, for marine scientific research and for the development and transfer of marine technology.


11 The United Nations Conference on Environment and Development (UNCED), popularly known as Earth Summit, was held in June 1992 at Rio de Janeiro where in more 150 governments had participated.
protection of the oceans. Agenda 21 is a dynamic programme emphasizing the need to promote the efficacy of international environmental law as well as the integration of environment and development policies through international agreements and institutions. It calls for the preservation of ecologically sensitive areas, developing and increasing the potential of marine living resources.

India has come a long way after Independence. The process of development inevitably involved the exploitation of natural resources and the consequent degenerative impact on the ecology and the environment. Spiritual and religious significance apart, ocean has also been considered as the repository and treasure trove of precious wealth. As the legend goes fourteen gems emerged out of the churning of the ocean – *Samudra Manthan*. Seas surround India. The Arabian Sea lies to her west, and the Bay of Bengal to her east. These are small semi enclosed seas. There are three groups of islands, the chain of atolls comprising the Lakshwadeep in the southern Arabian Sea and the Andaman and Nicobar Island groups in the eastern Bay of Bengal. The geographical disposition of India creates special conditions where ocean processes have temporal and spatial scales different from those in other parts of the global ocean. These geographical settings create conditions which are peculiar to our seas such as the monsoons, the vigorous air-sea exchange of climatically important gases, oxygen deficiency, and conditions that favour the formation of severe and devastating cyclones. Their understanding and accurate forecast are important for the economy of our country and the safety of our people.13

Our Indian coastline is under stress due to pollution generated by human activities. The coastal vegetation including mangroves and sea grasses are getting denuded. Sundarbans, the largest mangrove forest of the world, is situated in the south western part of Bangladesh and in the West Bengal state of India. The fragile environs of the island ecosystems have

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been subjected to pressures of various forms including migration of people from mainland. By marine environment we mean the adjacent coastal areas which support the productive and protective habitats like the mangroves, coral reefs and sanddunes. The threat to these regions from marine pollution and other oil pollution does not have a specific legal protection. The scientists' say that the root causes of the marine environmental damage are poverty, poorly managed social and economic development, and unsustainable consumption patterns.\(^\text{14}\)

Pollution in the oceans is a major problem with numerous implications affecting the life on land and marine life equally. Protection and preservation of marine environment is one of the priority areas of Government of India.

3. 1. LEGISLATIVE MEASURES:

Law is a regulator of human conduct. It hence plays a pivotal role in curbing the consequences brought about by anthropogenic activities in the environment. Environmental laws are generally framed and implemented to protect natural resources. The early environmental legislation in India was sporadic until 1970s, after which a systematic set of pollution control laws and environmental acts began to be developed. In 1980 a department of environment was established. In 1984 following the Bhopal gas tragedy the government decided to establish a full fledged ministry thus in 1985 a separate apex Ministry Of Environment and Forest ( MOEF) was formed. Followed by the Environment Protection Act (EPA) in 1986 under which several laws and notifications have been passed since.\(^\text{15}\)

Ministry of Environment and Forests (MoEF) and Department of Ocean Development (DOD) are responsible for the decision making in the areas of oceans and seas.

The Indian environmental jurisprudence brings out the unique characteristics of the new legal order which has been gradually established during the late 1970s and throughout the 1980s and the early 1990s. These developments have led to the virtual creation of a fundamental right to a clean environment in Indian law.

\(^{14}\) Despite this critical linkage, very little is known about the relationships between oceans and human health. Scientists are working with natural resource and human health managers to understand, predict, and reduce both direct and indirect effects of the oceans on human health.


In regard to the coastal activities there too have been a number of governing Legislations/Acts/Rules like Indian Fisheries Act 1897; Indian Ports Act, 1902, Merchant Shipping Act, 1974; Water (Prevention and Control of Pollution) Act, 1974; Indian Coast Guard Act, 1974; Environment (Protection) Act, 1986, Fisheries are regulated by the Marine Fishing Regulation Act, MFRA.

Two early post-independence laws touched on water pollution. Section 12 of the Factories Act of 1948 required all factories to make effective arrangements' for waste disposal and empowered the state governments to frame rules implementing this directive. As a result, a number of states passed tailored versions of the Factory Act to suit its particular situation. These included Uttar Pradesh in 1950, Tamil Nadu in 1950, West Bengal in 1958, Maharashtra in 1963 and Mysore in 1969. Secondly, under the River Boards Act of 1956 the river boards were established for the regulation and development of inter-state rivers and river valleys. These boards were empowered to prevent water pollution. In both these laws, prevention of water pollution was only incidental to the principal objective of the enactment.

During the 1950's and early 1960's marked the Constitution permitting the state to control water-related issues, several states had taken steps on water protection. Laws passed included The Orissa River Pollution Act of 1953, The Punjab State Tube well Act of 1954, West Bengal Notification No. 7 Regulation - Control of Water Pollution Act of 1957, Jammu and Kashmir State Canal and Drainage Act of 1963 and The Maharashtra Water Pollution Prevention Act of 1969. 16

16 http://envis.mse.ac.in/Early%20Environmental.asp, accessed on 12.03.11
As the international community geared up to confront the problem of marine pollution, India too participated by being a signatory to the various international conventions and treaties on the subject.\textsuperscript{17} In pursuance of the developments at UNCLOS III and State practice, India amended its Constitution in 1976 and enacted the Maritime Zones Act 1976, the Coastguard Act in 1978, the Maritime Zones of India (Regulation of fishing by foreign vessels) Act in 1981 and rules pursuant thereto in August 1982, and the Environment Protection Act in 1986.

**Constitution of India and Environment Protection**

A constitution is a set of rules for government which are often codified as a written document enumerating and fixing the powers and functions of a political entity. The Constitution of India is the longest written constitution of any sovereign country in the world,\textsuperscript{18} containing 448 articles, 12 schedules and 94 amendments, with 117,369 words in its English language version.\textsuperscript{19} After the independence in 1947, the struggle to live as an independent nation centered upon the framing of the constitution itself. The constitution, as a legal document, marked the birth of the 'modern India.'\textsuperscript{20} The legal development for the protection of the environment in India is firmly based on a constitutional rationale which seeks to establish a new public law regime in India.

\textsuperscript{17} UNCLOS was ratified in June 1996, MARPOL was ratified in and its provisions were adopted in the merchant shipping act.

Protocol of 1978 relating to the International Convention for the Safety of Life at Sea, 1974
Convention of the International Regulations for Preventing Collisions at Sea, 1972 as amended (COLREG (amended) 1972)
The protocol relating to the International Convention for the Prevention of pollution from Ships, 1973 as amended (MARPOL(Amended)73/78)
Convention on Facilitation of International Maritime Traffic 1965 as amended (FAL (Amended) 1965)
International Convention of Loadline, 1966 (LL 1966)
Protocol to the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC PROT 1976)
International Convention on the establishment of an International Fund for compensation of Oil Pollution Damage 1971 (FUND 1971)
Protocol to the International Convention on the establishment of an International Fund for compensation for oil pollution damage 1971(FUND PROT 1973)

\textsuperscript{18} Pylee, M.V., *India's Constitution* (1997).


The Indian constitution as adopted in 1950 did not deal with the subject of ‘protection of environment’ as such.\textsuperscript{21} The environmental movement in India can be said to have its genesis in the UNO Conference on Human Environment held at Stockholm in June, 1972. In the Ratlam case the observations made by Justice Iyer emphasized the need to shift the ‘center of gravity’ in the administration of justice. At the initial stages there was no direct and specific provision with regard to environmental protection.

The Indian Constitution obligates the “state” as well the “citizens” to protect and improve the environment.\textsuperscript{22} This makes the Indian constitution perhaps the first in the world to attempt to secure the protection and improvement of the imperiled environment and its resources. Professor Michael von Hauff of the Institute for Economics and Economic Policy, University of Kaiserlantern, Germany, in his article "The Contribution of Environmental Management Systems to Sustainable Development: Relevance of the Environmental Management and Audit Scheme" aptly observed that,

"It is remarkable that India was the first country in the world to enshrine environmental protection as a state goal in its Constitution".\textsuperscript{23}

The preamble to the constitution declares our country to be based on the socialist pattern of society. The Socialistic society may include decent standard of living and pollution free environment and there are many provisions in the Constitution which talks about environment protection. This objective of the preamble is reflected clearly and in specific terms in Part IV of the constitution, dealing with directive principles of state policy. Preamble of the Constitution of the India talks about the Socialistic pattern of the society.

Under the framework of the Constitution of India, a number of subjects are mentioned in which environmental duties to preserve the natural

\textsuperscript{22} See Art 48-A and 51-A (g) of the *Constitution of India*.
resources of the country have been enumerated. Moreover, the Constitution also provides procedures in Article 252 and 253 for adopting national legislations with regard to the needs of two or more states. It may also be noted that the Union Government, in pursuance of the Stockholm Declaration of 1972 and acting under Article 253, adopted the Water (Prevention and Control of Pollution) Act, 1974, and the Water (Prevention and Control of Pollution) Cess Act, 1977.

India has adopted a federal system in which the governmental power is shared between the central government and the state governments. The Constitution provides the Central government with overarching powers and concentrates administrative and financial powers in its hands. At the same time, there is sharing of powers and resources between the Central government and the states in a limited fashion. The legislative and the administrative relations between the union and the states are regulated by PART IX of the Constitution. The Constitution of India deals exhaustively with legislative powers pertaining to environmental law. The legislative powers under the scheme of the constitution is divided into three lists viz., the Union List or List – I, the State List or List –II, the Concurrent List or List – III.

Part – XI (Arts. 245-263) of the Constitution provides for the distribution of legislative powers between the union and the states. Article 246 distributes the subjects of legislative power in these three lists between the Centre and the States. The Union List contains 97 subjects and the Parliament alone has the power to legislate. The State List contains 66 subjects and the States have power to legislate. However, in respect of Concurrent List, which contains 52 subjects, both the Parliament and the State Legislatures have the power to legislate. There are about 200 Central and State Legislation on environmental protection. On the perusal of the distribution scheme of the legislative power between the centre and the states it becomes evident that the parliament is sufficiently equipped to make laws dealing with the environmental problems both at the national and local levels.

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24 Constitution of India, Articles 48-A and 51-A(g).
Since India is a signatory to various international agreements and understandings in the field of environment, important principles like the "precautionary principle", has become a part of the domestic law.25

The objectives of international environmental agreements are effectively achieved if all the relevant states become parties to them and ensure rigorous implementation along with monitoring the compliance thereof. India is a contracting party or signatory to numerous international treaties and agreements relating to regional or global environmental issues. The Stockholm conference was honored by references in the Air Act and the Environment Act which was a result of effective applications of Article 253 of the Constitution. The mentioned article gives India's central legislature, the Parliament, the power to make laws implementing India's international obligations, as well as any decision made at an international conference, association or other body.26

These provisions have a direct bearing on the environmental protection to the effect that the Parliament in pursuance of article 253 read with Entries 13 and 14 of the Union List., which includes the subject matters over which the parliament can make laws, provides “participation in international conferences, associations and other bodies and implementing decisions made thereat” 27 and "entering into treaties, agreements and conventions with foreign countries” 28 can pass any law related to environment protection without its legality being questioned in any court of law.

The Forty-Second Amendment to the Indian Constitution in 1976 introduced principles of environmental protection in an explicit manner into the Constitution through Articles 48A and 51A(g). Article 48A, part of the Directive Principles of State Policy, obligated the State to protect and improve the

26 In addition to the Constitutional mandate, India has a number of national policies governing environmental management, including the National Policy on Pollution Abatement (NPPA, 1992) and the National Conservation Strategy and Policy Statement on Environment and Development (NCS/PSED, 1992). While these national policies are not judicially enforceable, they serve as guiding principles for the central and state governments to follow.
27 Entry no.13 of the Union List in the VII Schedule to the Constitution.
28 Entry No. 14 of the Union List in the VII Schedule to the Constitution.
environment. On the other hand, Article 51A (g) is obligated citizens to undertake the same responsibilities. As far as this legislative power was concerned, the Forty-Second Amendment to the Indian Constitution moved the subjects of “forests” and “protection of wild animals and birds” from the State List to the Concurrent List.

Fundamental Duties

The Forty-Second Amendment to the Indian Constitution in 1976 added a new part IV-dealing with “Fundamental Duties” to the Indian Constitution. Article 51-A of this part enlists ten fundamental duties. Article 51-A (g) contains the environment specific fundamental duty. It provides:

It shall be the duty of every citizen of India to protect improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures. Article 51-A (j) further provides: It shall be the duty of every citizen of India to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

The duties are those of the “citizens”. This word has been used on purpose to rest the obligations on the masses and urge them to realize their responsibility and participate actively in shaping the nations’ present and future. The point to be observed here is that the duty enshrined is not only to “protect” the environment but also to “improve” the environment quality in case it has been compromised with.29

The concept of fundamental duties has undergone a radical change from 1976, the year of their inclusion of the Indian constitution. The earlier typecast of being unenforceable has been done away with. Through a period of judicial activism and a plethora of far reaching landmark decisions the compliance with fundamental duties as of today is undeniably enforceable.

Directive Principles of State Policy

The Directive principles of State Policy which are dealt with in the PART IV of the Indian Constitution represent the socio-economic goals which

the nation is expected to achieve. Part IV deals with the 'Directive Principles of State Policy' that largely enumerate objective pertaining to socio-economic entitlements. Article 47 is one of the Directive Principles of State Policy which aims to raise standard of living and public health of people and public health of people can not be achieved with good environment and it is the responsibility of the State to promote measures which protects environment. The improvement of public health will also include the protection of and improvement of environment without which public health cannot be assured. Article 48-A added by 42nd Amendment Act provides: The state shall endeavour to protect and improve the environment and to safeguard the forests and the wildlife of the country.

The Directive Principles aim at creating an egalitarian society whose citizens are free from the abject physical conditions that had hitherto prevented them from fulfilling their best selves. They are the creative part of the Constitution, and fundamental to the governance of the country. Article 37 of the constitution provides: The provisions contained in this part shall not be enforceable by any court, but the principles therein laid down are nevertheless fundamental in the governance of the country and it shall be the duty of the state to apply these principles in making laws.

Over the decades, the Supreme Court has affirmed that both the Fundamental Rights and Directive Principles must be interpreted harmoniously. It was observed in the Kesavananda Bharati case, that the directive principles and the fundamental rights supplement each other and aim at the same goal of bringing about a social revolution and the establishment of a welfare State, the objectives which are also enumerated in the Preamble to the Constitution.

Furthermore, in Unni Krishnan, J.P. v. State of Andhra Pradesh, Justice Jeevan Reddy declared: “The provisions of Parts III and IV are supplementary and complementary to each other and not exclusionary of each other and that the fundamental rights are but a means to achieve the

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30 The framers included 'Directive Principles of State Policy' following the example of the Irish Constitution.
31 (1973) 4 SCC 225.
32 1993 AIR 2178.
goal indicated in Part IV”. The directive principles serve the courts as a code of interpretation and at present stand elevated to the status of inalienable fundamental human rights.

**Fundamental Rights**

The Fundamental Rights embodied in the constitution are guaranteed to all citizens. These civil liberties take precedence over any other law of the land. The beauty of a constitution provision is that it is never static; it is ever evolving and ever changing and, therefore, does not admit of a narrow, pedantic or syllogistic approach. Article 21 of the Constitution of India guarantees all persons a fundamental right to life and personal liberty and is the heart of fundamental rights and has received expanded meaning from time to time and there is no justification as to why right to live in a healthy environment, cannot be interpreted in it. The judiciary in India has provided impetus to the human rights approach to the protection of environment. The judicial grammar of interpretation has made “right to live in healthy environment” the crux of Human Rights.

The right to life has been employed in a diversified manner in India. It has been interpreted extensively to include the right to a wholesome environment. Article 21 of the Constitution of India talks about the Right to life and Right to live in pollution free environment and this is only possible when the environment protection is given staple priority and steps are being taken in order to provide Sustainable Development to the coming generations.

As the Supreme Court is the final authority as far as matters of constitutional interpretation are concerned, it assumes a sort of primal position in the Indian environmental legal system. The Supreme Court, in its interpretation of Article 21, has facilitated the emergence of an environmental jurisprudence in India, while also strengthening human rights jurisprudence. There are numerous decisions wherein the right to a clean environment, drinking water, a pollution-free atmosphere, etc. has been given the status of inalienable human rights and, therefore, fundamental rights of Indian citizens.
3.1.2. Statutory Enactments

With our country's emerging environmental scenario with industrialisation in the post-independence era, the provisions already existing in various enactments to tackle environmental pollution including marine environmental pollution, were found to be either inadequate or ineffective to check the degradation of the environment.

The term marine environment as has been already explained comprises of the biotic (living) and the abiotic (non-living) factors. Much varied environmental legislation that exists in India in regard to the conservation of the marine environment deal with either one or the other of these factors. For instance there are legislations which aim for the protection of marine and coastal species and then there are those which aim for protecting their habitats. There are blanket legislations on one hand and on the other there are specific ones too. Some legislations focus on the causes of the pollution while some regulate the consequences of the marine degradation.

There are various legislations enacted in India which handle one or the other element of the protection and preservation of the marine environment.

i. The Wildlife (Protection) Act, 1972

ii. The Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976

iii. The Coast Guard Act, 1978

iv. The Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981

v. Marine Fishing Regulation Act, 1978

vi. The Merchant Shipping Act, 1958

vii. The Water (Prevention and Control of Pollution) Act, 1974

33 There were The Indian Penal Code, The Criminal Procedure Code, The Factories Act, The Indian Forest Act, The Merchant Shipping Act, etc. have provisions for regulation and legal action for some specific environmental issues.
viii. The Coastal Regulation Zone (CRZ) Notification, 1991
ix. The Forest (Conservation) Act, 1980
x. The Coastal Aquaculture Authority Act, 2005
xi. Customs Act, 1962
xii. The Marine Products Export Development Authority (MPEDA) Act, 1972
xiii. Indian Fisheries Act, 1980
xiv. Indian Ports Act, 1908
xv. Environment (Protection) Act, 1986

Some Acts of legislation, such as the Environment (Protection) Act, 1986, and the Wild Life (Protection) Act, 1972, straddle both the land and the marine environment. The Central and State governments share the responsibility for the prevention of marine pollution and they work together getting the required support of the pollution control boards of the maritime coastal states or union territories as the case may be and lastly that of the Ministry of Surface Transport. Recognizing the need for prompt action and response to ocean disasters or oil spills, the Ministry of Defence (MoD) has been made responsible for pollution response measures), instead of the Ministry of Environment and Forests.

The action plan relating to marine pollution abatement is distributed broadly among the different legislations. The Indian Merchant Shipping Act, 1958 deals with the control of pollution from ships and offshore platforms in the Exclusive Economic Zone, and The Indian Ports Act, 1963, under the Ministry of Petroleum and Natural Gas (MPNG) are concerned with pollution upto 500 meters from oil platforms and structures. The Water (Prevention and Control of Pollution) Act, 1974, is equipped for the control of marine pollution arising from land-based sources with a jurisdiction of upto 5 km in the sea.
Other central legislations having an impact on marine environment are the Atomic Energy Act, 1962, which regulates the disposal of radioactive wastes and other substances. As regards marine pollution by oil, the Merchant Shipping Act, 1958, provides a legal framework for waste discharges from ships. The Wildlife (Protection) Act, 1972 provides for designation of protected areas in coastal and marine areas and protects marine species such as whales, dolphins, turtles, corals, certain fishes, mollusks, etc.

The Ministry of Environment and Forests (MoEF)

The Ministry of Environment and Forests (MoEF), the apex policy making body in the field of environment, acts through the Central Pollution Control Boards (CPCBs) and the State Pollution Control Boards (SPCBs). The Ministry serves as the nodal agency in the country for the United Nations Environment Programme (UNEP), South Asia Co-operative Environment Programme (SACEP), International Centre for Integrated Mountain Development (ICIMOD) and for the follow-up of the United Nations Conference on Environment and Development (UNCED). Since the primary concerns of the Ministry are implementation of policies and programmes relating to conservation of the country’s natural resources which include its lakes and rivers, its biodiversity, forests and wildlife, ensuring the welfare of animals, and the prevention and abatement of pollution it covers the protection and preservation of marine environment as well.

(i) The Wildlife (Protection) Act, 1972

The Indian Parliament enacted the Wildlife (Protection) Act, 1972 to protect, preserve and improve the wild life. The Wildlife (Protection) Act, 1972, provides for protection to listed species of flora and fauna and establishes a network of ecologically-important protected areas. The Forty-Second Amendment Act, 1976 introduced two new entries 17-A and 17-B in the List III entitling both state legislature as well as the parliament to enact the laws in

34 The Ministry is also entrusted with issues relating to multilateral bodies such as the Commission on Sustainable Development (CSD), Global Environment Facility (GEF) and of regional bodies like Economic and Social Council for Asia and Pacific (ESCAP) and South Asian Association for Regional Co-operation (SAARC) on matters pertaining to the environment.
regard to the protection of the wild life and wild animals. The act passed by the Parliament under article 252 of the Constitution at the request of eleven states intends to provide a comprehensive national legal framework for wild life protection. The conservation strategy centers at the endangered species and the specified areas. The aim is to protect the endangered species everywhere irrespective of their locations and in context of the specified areas all species are to be protected. The WLPA provides the highest protection to wild animals, birds and plants and their habitats, with a view to ensuring the ecological and environmental security of the country.

The Wildlife (Protection) Amendment Act of 2002 brought about substantial change in the Principal Act of 1972. The most relevant addition in context of marine environment is the change incorporated in the definition of term "animal" which was expanded to include "fish" in it. So now the definition of "animal" post the Amendment Act Of 2002 includes mammals, birds, reptiles, amphibians, fish, other chordates and invertebrates and also includes their young and eggs.

Thus the marine species too come within the ambit of this definition. The provisions of this act can be instrumental in the protection, preservation and improvement the marine biodiversity. It is also under this Act that certain marine species are declared as protected. Ten species of shark, seahorses, sea cucumbers, giant grouper, corals and some mollusk species have been listed in Schedule I of the Act, which prohibits hunting and trading in these species. Olive ridley turtles are categorized as Vulnerable on the IUCN Red List (IUCN, 2002) and are included in Schedule I of the Indian Wild Life (Protection) Act, 1972.

In J.P. Samuel & Co. v. Union of India, the Madras High Court held that "seafans" are to be considered as a coral which is also a part of the animal kingdom. It is an aquatic life form and can be brought under the definition of wild life which also includes any animal and hence the same.

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36 AIR 2002 Mad 14.
cannot be allowed to be exported in the interest of environment and also it is considered as precious form of aquatic life.

The WPA was enacted to provide protection for wild animals, birds and plants. The Ministry of Environment and Forest through its notification of 11 July 2001 has included following species of corals--- Reef Building coral, Black coral, Organ Pipes, Fire coral and Sea Fan--- in the Schedule I Part IVA of the WPA. The list also offers protection to species that share a close interdependence with coral reefs such as sharks, sea horses, groupers, sea cucumbers and fifty-two species of mollusc. Once these species are included in the list of Wild Animals they can be protected from overuse and exploitation by industry and trade. The Wild Life (Protection) Act, 1972 is the earliest statute. It defines 'wildlife' in Section 2(37) as including: "any animal, bees, butterflies, crustacea, fish and moths; and aquatic or land vegetation which form part of any habitat " ; thus it brings the marine habitats within its ambit as well.

The Wildlife (Protection) Act, 1972 adopts a twofold conservation strategy: certain listed endangered species are protected regardless of their location; and all species are protected in designated areas, i.e., sanctuaries and national parks. Recently, two new types of reserves have been created: conservation reserves (state-owned land) and community reserves (community or private land), to improve the socio-economic conditions of people living in such eco-sensitive areas as well as ensuring conservation of wildlife.

The Wildlife Act also implements the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973, by regulating trade and commerce in wild animals (listed in various categories depending on whether the species is endangered), animal articles, trophies and derivatives from animals. The major features of the WLPA are that it provides for authorities to administer and implement the Act; regulate the hunting of wild animals; protect specified plants, sanctuaries, national parks; restrict trade or commerce in wild animals or animal articles; and miscellaneous matters. The Act prohibits hunting of animals except with permission of
authorized officer when an animal has become dangerous to human life or property or as disabled or diseased as to be beyond recovery.

The Central Government may appoint a Director of Wildlife Preservation, Assistant Directors of Wildlife Preservation and such other officers and employees as may be necessary. The State Government may, for the purpose of this Act, appoint Chief Wildlife Warden, Wildlife Warden, Honorary Wildlife Wardens and other officers and employees as may be necessary.

The 2002 Amendment Act added the provision for the constitution of the National Board for Wildlife to be headed by the Prime Minister in the capacity of the Chairperson. The Sec. 6 of the Act enforces and enables the state governments and the administrators of the Union Territories to constitute a Wild Life Advisory Board in each states and union territories. In Centre for Environmental Law, WWF-I v. Union of India, Supreme Court had directed the states which did not constitute the Wildlife Advisory Board, to constitute the same within two months.

The Wildlife State Board functions to advise the state government in the following matters of selection and management of areas as Sanctuaries, National Parks and Closed areas; in formulation of the policy for protection and conservation of wildlife and specified plants; in any matter relating to the amendment of any schedule; in relation to the measure to be taken for harmonizing the needs of the tribals and other dwellers of the forests with the protection and conservation of wildlife; in any other matter connected with the protection of wildlife which may be referred to it by the state government. This Act is the only law in operation which focuses on habitat and species conservation with an end to meet its objectives. Chapter IV of the Act deals with protected areas such as Sanctuaries and National Parks.

37 Sec. 3 of the WLPA.
38 Id., Sec. 4.
39 AIR 1999 354 SC.
40 Sections 18 – 38.
41 Annexure 5.
The WLPA provides no specific definition of either Marine Protected Areas (MPAs) or marine and coastal protected areas (MCPAs). Where territorial waters are to be included within a sanctuary, the WLPA specifically mentions that this may be done (a) after taking adequate measures to protect the occupational interests of the local fishermen; after consulting with the Chief Naval Hydrographer of the Central Government regarding the limits of the area to be included⁴² and (b) while duly protecting the right of 'innocent passage' of any vessel or boat through the territorial waters.

In 2002, the WLPA was amended to empower State governments to create Conservation and Community Reserves with the participation of local communities. While this could be a potential tool in the hands of communities for gaining legal recognition of their traditional conservation efforts, the restriction that only community and private land may be thus reserved severely curtails the potential power of the provision. ⁴³ Since the WLPA empowers State governments to notify changes in the boundaries of Protected Areas( Pas), the threat of denotification is also ever-present.


There is a blanket ban on carrying out any industrial activity inside these protected areas. The Wildlife Protection Act, 1974 prescribes a penalty for the contravention of any provisions or for breach of any license or permit, an imprisonment upto three years or fine upto twenty five thousand or both; for offence committed in relation to any Schedule I and II or to illegal trade in wildlife meat or altering boundaries of Parks, an imprisonment of not less than one year, upto 6 years and a fine of not less than five thousand; for trade

⁴² Section 26A proviso.
⁴³ http://www.panchayats.org/downloads/Comments%20on%20WP%20Bill.Pdf. accessed on 08.05.11.
or commerce in scheduled animals, not less than one year, up to seven years and not less than five thousand.

Sec. 50 empowers the Chief Wildlife Warden with the power of entry, search, arrest and detention; To seize any captive animal, wild animal, animal articles, meat, trophy or uncured trophy or any specified plant or part or derivative thereof, in respect of which an offence against this Act appears to have been committed, in the possession of any person together with any trap, tool, vehicle, vessel or weapon used for committing any such offence and unless he is satisfied that such person will appear and answer any charge which may be preferred against him, arrest him without warrant and detain him. All such property hunted and seized in the protected areas shall be the property of the Government. By declaring an area as a national park or sanctuary that habitat is designated a special status. The provisions of the act regarding the conservation and protection of the floras and fauna apply. The scheduled species are protected from hunting and destruction as well as the sensitive habitats is protected by placing restrictions on several activities within that area.

**The Gulf of Mannar Marine National Park**

It is a protected area of India consisting of 21 small islands (islets) and adjacent coral reefs in the Gulf of Mannar in the Indian Ocean. It lies 1 to 10 km away from the east coast of Tamil Nadu, South India for 160 km between Thoothukudi (Tuticorin) and Dhanushkodi. It is the core area of the Gulf of Mannar Biosphere Reserve which includes a 10 km buffer zone around the park, including the populated coastal area. The park has a high diversity of plants and animals in its marine, intertidal and near shore habitats. Public access inside the Park is prohibited.

**Marine National Park of Gulf of Kachchh**

It is the first national marine park of India. In 1982, a core area of 110 km² was declared Marine National Park under the provisions of the Wildlife (protection) Act, 1972 of India. India’s first MPA was designated in 1967 for the protection of wetlands and the birds migrating there, even before a central
legal framework was put in place. There are 30 to 40 islands on the Jamnagar coast in the Marine National Park, all surrounded by reefs. Marine National Park of Gulf of Kachchh is a fragile ecosystem. In recent years, biodiversity of Marine Park has been under threat on several scores like extraction of corals and sands by cement industries, increased turbidity of water, oil refineries, chemical industries and mechanized fishing boats.

**Mahatma Gandhi Marine National Park**

It is a national park of India in Wandoor on the Andaman Islands. The park was created 24 May 1983 under the Wildlife Protection Act of 1972 to protect marine life such as the corals and nesting sea turtles prevalent in the area. It was placed under the protection of the Chief Wildlife Warden of the forest department of the Andaman & Nicobar Islands. The islands are uninhabited land although, per the 1981 census, there is a population of 3000 living in 8 adjacent villages.

**The Malvan (Marine) Wildlife Sanctuary**

It was designated in 1987, and covers an area of 29.12 sq km, with a core zone of 3.18 sq km. The core zone includes the Sindhudurg fort, Padamged Island and other submerged rocky structures. The core zone is used for anchoring fishing vessels, and by a small number of hook-and-line fishermen for fishing. So the biotic and abiotic components of the environment of the marine protected areas can be protected and preserved with the help of the provisions of this Act.

**ii) The Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act 1976**

Coastal environment plays a vital role in nation’s economy by virtue of the resources, productive habitats and rich biodiversity. Nearly twenty five percent of the total population of the country lives within a distance of 50 Kms from sea. Government of India enacted the Maritime Zone Act 1976 in ratification of the United Nations Convention on Law of Sea (UNCLOS III) provisions. The law clarified and demarcated areas in the sea as Territorial waters, Contiguous zones, Exclusive Economic Zones and continental shelf. The Maritime Zones (the Territorial Waters, Continental Shelf, Exclusive
Economic Zone, and Other Maritime Zones) Act, 1976, provides that ‘all lands, minerals and other things of value underlying the ocean within the territorial shelf or the continental shelf or exclusive economic zone shall vest in the Union’.44

The Act has empowered the Central Government to extend with restriction and reservations any central enactments, for the time in force in India to the EEZ. The MZI Act, 1976 is, therefore, by nature an Umbrella Legislation on maritime matters. The right of the nations vary in these areas, for example, the State has complete sovereign authority over the territorial zones whereas the rights of the State parties is restricted to economic interests like exploitation and exploration of resources in the Exclusive Economic Zones. The law on the demarcation of the areas in the sea as territorial waters, Exclusive Economic Zones etc is considered to be very important since various other enactments like the Coast Guard Act, 1978, the Customs Act, 1962 etc. refer to the provisions of the Territorial waters, Continental shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976.

Sections 6(3)(d) and 7(4)(d) of the act has conferred exclusive jurisdiction on the Central Government to preserve and protect the marine environment and to prevent and control marine pollution within the Continental Shelf and the Exclusive Economic Zone. Section 11, states that “Whoever contravenes any provisions of this Act or of any notification there under shall (without prejudice to other action which may be taken against such person under any other provision of this or of any other enactment) be punishable with imprisonment which may extend to three years or with fine, or with both”.

44 In accordance with UNCLOS, India claims 2.01 million sq km of sea area for exclusive rights for exploration and exploitation of resources, both living and non-living under the 1976 MZI Act. The Act also provided a general legal framework specifying the nature, scope and extent of India’s rights, jurisdiction and control in relation to the various maritime zones; the maritime boundaries between India and other littoral states whose coasts are adjacent to those of India; for the exploitation exploration, conservation, management of natural resources within the maritime zones.
However, the Act necessitates the requirement of previous sanction of Central Government before instituting prosecution against any person prescribed under Section 14-12 of the said Act. Section 14 of MZI Act, 1976 states that:

‘No prosecution shall be instituted against any person in respect of any offence under this act or the rules made there under without the previous sanction of the Central Government or such officer or authority as may be authorised by that Government by order in writing in this behalf’.45

Further, Section 15 of the MZI Act 1976 empowers the Central Government to make rules by notification to carry out the purposes of the Act in general and for delegating specific power for inter-alia regulation for conduct of any person in the territorial waters, the contiguous zone, the exclusive economic zone or any other maritime zone of India. 15 of the MZI Act 1976 empowers the Central Government to make rules by notification to carry out the purposes of the Act in general and for delegating specific power, so far no rules have been framed by the Central Government under the said Act. only seven notifications have been issued under the MZI Act,1976. Of them two important notifications issued in 1986 related to notifying “designated area” of oil platforms etc, in the Western coast (ONGC oil platforms of Bombay High North and South near Mumbai) and notification for prohibition of entry of Merchant ships for other sea traffic (except the Indian Naval ships and Indian Coast Guard ships) within 500 meters of these restricted zones, named as “designated areas”. More oil rigs were added vide the last notification issued by the Ministry of External Affairs in 1996.

It is to the credit of India that some of the customary features of the Convention were incorporated in the Maritime Zones Act, 1976, much before the United Nations Convention on the Law of the Sea (UNCLOS) itself was adopted. In December 1982, India signed the Convention and it came into force for India in 1995, one year after the Convention entered into force in 1994.

(iii) **The Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981**

With increase in poaching activities by foreign fishing vessels in the Indian EEZ, need was felt to frame a specific law to deal with the illegal fishing as also to protect the Indian fishermen and other maritime interests of India. Accordingly, the Maritime Zones of India (Regulation of Fishing by Foreign Fishing Vessels) Act, 1981 (short title MZI Act, 1981) was enacted to regulate fishing activities by foreign fishing vessels and to provide for deterrent punishment by way of imprisonment, heavy fines and confiscation of the foreign fishing vessels convicted of offences of illegal fishing. Fishing beyond the territorial waters is regulated by the Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981. This Act regulates the poaching activities of foreign fishing vessels in the Indian exclusive economic zone and also provided for detailed rules prohibiting the use of explosive and poisonous substances that can kill, stun, or disable fish.

The 1981 MZI Act complements the 1976 MZI Act where the rights in the EEZ were protected for exploitation of living resources by the citizens of India and the foreign vessels need to obtain license or permit in accordance to the conditions laid down in MZI Act 1981. The Act specifically authorized the CG under Article 9 Chapter III for enforcement of its provisions. 46.

With the passage of time, the MZI Act, 1981 has been employed more frequently by the agencies of Union Government such as the Navy and the Coast Guard at Sea. Specific power of apprehension, arrest and seizure were vested with the State Police officials in the coastal states and “specified ports” were also notified in each coastal state where foreign fishing vessels could be taken for being handed over to police for prosecution. “Designation courts” at specific “places of trial” where Judicial Magistrates First Class were also empowered, in view of the heavy fines prescribed under the said Act for which the Magistrates were not originally empowered under the Cr PC. The MZI Act, 1981, unlike the umbrella legislation of MZI Act 1976, does not have any restriction of obtaining previous sanction of the Central Government before

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46 Further, through an amendment, the Navy as well as the police was also subsequently authorized to implement and enforce the provisions of the said Act.
initiating prosecutions for the various offences, although the accused persons under the MZI Act, 1981 are all foreigners.

It was enacted to regulate the fishing activities of the foreign vessels in certain maritime zones of India. "Maritime zones" is defined as the territorial waters and the Exclusive Economic zones of India [Section 2(g)]. The Act necessitates authorization from the Central Government for entry any ship, boat, sailing vessel or any other description of vessel which is not owned by a citizen of India shall into the maritime zones of India. The Act requires foreign vessels to obtain a license [Section 3(a)] and permit [Section 3(b)] for carrying out fishing activities in the maritime zones. Foreign vessels are also prohibited from catching any fish of a species, size or age that are prohibited under the Wild Life Protection Act and where such fish are caught they shall be retained and preserved on board the vessel and shall be surrendered to the authorized officer along with the report accounting for the same.

(iv) The Water (Prevention and Control of Pollution) Act, 1974

In the words of the United Nations Development Programme (UNDP), water is ‘the stuff of life and a basic human right’. Water is undisputedly an essential element for life on earth including human life and is therefore also a topic of concern in law. It’s a common fact that the rivers traversing the cities are used to dispose all sorts of waste material including sewage, domestic and industrial wastewaters. The rivers carry the pollutants ridden waters through the coastal areas unto the marine waters. Thus constituting the land sourced marine pollution. Therefore to prevent marine pollution it becomes equally imperative to control the pollution of the rivers and the other water bodies which empty into the coastal waters.

Water is a basic need for the survival of human beings and is part of the right to life and human rights enshrined in article 21 of the constitution of India. The existing legal framework concerning water is complemented by a human rights dimension. While the Constitution does not specifically recognize a fundamental right to water, court decisions deem such a right to

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be implied in Article 21 (right to life). Under the Constitution ‘water’ constitutes a state subject on which the states enjoy the exclusive power to legislate; except in the case of regulation and development of inter-state rivers and river valleys to which only the Central Government is empowered to legislate by virtue of entry 56 of the union list of the Seventh Schedule. This formed the basis for enacting a comprehensive statute to prevent and control water pollution in India called; The Water (Prevention and Control of Pollution), Act, 1974.

Current regulation can be defined as a command and control approach, based on emission concentration standards enforced by the different State Pollution Control Boards. The water act was enacted by the Indian parliament as result of the United Nations conference on the human environment, which took place at Stockholm, 1972. The Water (Prevention and Control of Pollution) is a Central Act enacted by the Parliament in pursuance of powers given under Articles 249, 250 and 252 of the Constitution of India.

The basic scheme of this Act is to ensure the prevention and control of water pollution and to maintain and restore the wholesomeness of water. It establishes the central and the state boards for the prevention of water pollution. These boards have been conferred and assigned such powers and functions which would be necessary to give effect to objectives of the act. The act also lists the penalties for the contravention of its provisions. It establishes central and state water testing laboratories to set standards and parameters and assess the extent pollution. It establishes an institutional structure for prevention, control and abatement water pollution, and establishing the standards for water quality and effluent discharge. Polluting industries must seek permission to discharge waste into effluent bodies.

The Central and State Pollution Control Boards are the designated implementing bodies under the Water Act. The Act gives wide powers to the Water Boards: to decide their own standards; their own regulations according to the local needs; to prosecute the offenders; to promote the wholesomeness.

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49 Water is a state subject, the Parliament can exercise the power to legislate on water only under articles 249 and 252 of the Constitution of India.
of national waters. This Act has been enacted for the protection of water resources from pollution. This Act is considered to be very significant in preserving the marine environment since it defines "stream" to include river; water course; inland water; sub-terranean waters; sea or tidal waters which has been extended till 5 kms by all water bodies including sea or tidal waters.

The legal provision that allows for States to delineate specific pockets of ‘water pollution, prevention and control area or areas’ within the State to come under the purview of the Water Act restricts the scope of the Act and the achievement of its goals. The Act defines streams in the marine context as sea or tidal waters to such extent as notified by the State Government in the Official Gazette.

The Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCB)

The role of CPCB, a statutory organization, which was formed in 1974 under the Water Act is to advice the Central Government on matters concerning pollution, plan and execute a nation-wide programme for prevention and control of pollution, coordinate and provide technical assistance to the State Boards, organize programmes for mass awareness, disseminate pollution-related information, lay down, modify and annul, in consultation with State Governments, the standards for air and water quality and so on. The functions of the Central Board at the national level in addition to promoting cleanliness of streams and wells include being the advisory agency to the Central Government on matters relating to prevention and control of water pollution, coordinating the activities of the State Board and resolving the disputes among them, providing technical assistance and guidance to the State Boards, carrying out and sponsor research and investigation in the problems of water pollution, laying the standards for streams and wells, promoting environmental awareness and finally to act as State Board for the Union Territories.

The CPCB has a network of zonal offices located in New Delhi, Calcutta, Shillong, Kanpur, Bangalore and Vadodara. It is empowered to lay down ambient standards for a stream or well. The CPCB also conducts nation wide surveys collecting, compiling and publishing technical data about the status of water pollution.
In order to control and prevent water pollution the boards have been empowered suitably by the Act to take certain actions. The main functions entrusted with the SPCBs can be categorized into a) advisory / policy-related, b) administrative and c) those concerning public relations and HRD. In case of emergent conditions likely to cause pollution, the board may issue orders restraining or prohibiting the concerned person from discharging any poisonous, noxious or polluting matter and also at the same time take actions to remove and remedy the pollution. Section 33-A of the Water Act incorporated by way of an amendment in 1998 gives the power to the board to give directions which include directions for the closure, prohibition or regulation of any industry, operation or process or, for the stoppage or regulation of supply electricity, water or any other service to industry in the prescribed manner. The water act prescribes different penalties for violating the different provisions of the water act.

Under the Water Cess Act of 1977 state boards may charge industries and municipalities with a water cess calculated on the volume of water consumed, and for consent fees. Nevertheless any fee levied by the SPCBs has to be sent to the central government. The central government is then supposed to return 80% of the fees to the SPCBs.

In order to regulate pollution controls in coastal areas, several studies have been carried out under "Marine Pollution and its Control" in the country. The Central Pollution Control Board has carried out an extensive inventory of coastal activities and published reports entitled 'Use of Classification of Indian Coasts and Conflicts' in five volumes (COPOCS I-V, 1982-86).

Coastal Ocean Monitoring and Prediction System (COMAPS):

The Ministry of Earth Sciences (formerly Ministry of Ocean Development, DOD) jointly with the Central Pollution Control Board (CPCB) and National Institute of Oceanography (NIO) has been monitoring the levels of marine pollution at about 80 locations along the coastline of the country. The programme is called COMAPS. The programme is operational from the year 1991-92 onwards. Data on nearly 25 environmental parameters including

physical, chemical, biological and microbiological characteristics of water and sediment are collected with the help of R&D institutions in 0-10 km sector of these locations. Subsequently, the monitoring of coastal waters upto 5 kms limit in terms of recommended parameters was undertaken. Two Coastal Research Vessels (Sagar Poorvi and Sagar Paschimi) were engaged since 1996 in the programme. In the year 2001 the programme was again revised and is being carried out. At this juncture, DOD (now Ministry of Earth Sciences) has entrusted the Central Pollution Control Board (CPCB) to take up the programme on countrywide land based sources of pollution to the coastal waters.52

The main objective of the programme is to constantly assess the health of India marine environment and indicate areas that need immediate and long-term remedial action. Data on nearly 25 environmental parameters are being collected at about 70 locations (number and locations vary periodically which is due to changes made based on user requirements and non observation of definite trends in levels of parameters) with the help of 121 R&D institutions in the 0-25 km sector of the coastline of the country. The studies and efforts in relation to marine environment of COMAPS are notably in the following fields.

(a) Studies on Sensitive Coastal Areas:

The preliminary studies were carried out in some of the sensitive coastal areas for obtaining comprehensive information for Environmental Impact Assessments (EIA) and Environmental Status such as type of industrial estates, marine out falls, water quality parameters, weather, solid waste disposal (quantity), and socio-economic status. Also, the Conservation measures are being taken and Conservation measures will be taken on mangroves and coral reef beds. This study would be great helpful in establishing basic information and baseline data required for the implementation of marine pollution controls in India.

52 Accordingly, the project on “Assessment of Land based Sources of Pollution to the Coastal Waters of India” was conceived and the project was approved in 2002-2003. The studies were initiated in the end of the year 2003. CPCB prepared five reports on the land based sources of pollution in compliance to the decision of the DOD. The study includes seasonal monitoring of coastal waters, sediments and biological materials for recommended parameter up to the distance of 22.5 km offshore. The study also includes the bacteriology.
(b) Environmental Status of Aquaculture in India:

The Central Pollution Control Board focuses on the environmental status of brackish water aquaculture in the country. The concern arises from the rapid expansions in the shrimp industry which are likely to cause a number of social and environmental side effects, which have been witnessed elsewhere in the world. The study includes the inventory of the coastal aquaculture and its impacts on coastal environment.

(c) Environmental Status of Ports in India:

Ports and harbors are the gateways to national and international funds and are inseparably linked with the country’s economic development. The adverse environmental impacts by various activities in 11 major and 140 minor ports as well as 6 major and 27 minor fishing harbors has resulted in deterioration in the estuarine and coastal water quality, degradation in sediments quality, contamination of soil, air quality and generation of vibrations, noise and other type of wastes. The oil and grease content in the waters of Paradip Port were less than those of waters of Calcutta Port. High content of phosphates were also observed, probably due to mixing phosphates while handling rock phosphate.

(d) Status on Marine Pollution due to Ship Breaking Yard:

Alang in the Gujarat coast is an important and the largest ship-breaking yard in the world. Two million tons of steel are produced by breaking two hundred ships annually, which degrades the marine environment and causes pollution as well. Hence, measures for pollution control have been carried out for past recent years, and guidelines have been prepared for ship breaking activities. The investigation revealed that during the ship breaking activities a water quality of Alang coast deteriorated. Huge quantities of the hazardous solid wastes also are generated during the ship breaking activity, which is either burnt on the same plot or disposed at the seashore. This unscientific burning of solid wastes creates significant air pollutions in the area.
(e) Assessment of Land based Sources of Pollution to the Coastal Waters of India

India's coastline includes maritime states like Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Orissa, West Bengal and Union Territories - Daman and Puducherry in mainland, Lakshadweep on Arabian Sea and Andaman and Nicobar Islands on Bay of Bengal. The study has been undertaken all along the Indian coast including areas of river outfalls and island systems. The information on water sources, water utilizations, wastewater generation, treatment facilities available and disposal methods and also solid wastes both municipal and hazardous, generated has been collected by personal visit or the questionnaire survey from municipalities, industries, aquafarms, ports and harbours, fisheries harbours and solid waste generated from ship-breaking and pollution load generated by salt pans, coconut husk retting and other processes or establishments, which are discharging treated and untreated wastewater to the coastal waters directly or indirectly. The wet study includes collection of samples from significant pollution sources during the study period for analysis of relevant parameters.

The Water Cess Act provides for the levy of a cess on water consumed by persons carrying on specified industries given in Schedule-I of the Act and also local authorities entrusted with the duty of supplying water under the laws by or under which they are constituted at the rates specified in Schedule-II of the Act.53

(v) Environment (Protection) Act, 1986

The Environment Protection Act, 1986 is the most comprehensive act on the Indian statute book relating to environment protection. It is an umbrella legislation designed to provide a framework for the Central Government to coordinate the activities of various Central and State regulatory agencies established under previous laws, to bring about uniformity and uncovered

53 The Cess is levied and collected by the State Government concerned and credited to the consolidated Fund of India. An industry which installs and operates its effluent treatment plant is entitled to a rebate of 25% on the cess payable. The cess has been introduced mainly to augment the resources of the Central and the State Pollution Control Boards
gaps in the environment related regulations, and to provide deterrent punishment to those who endanger human environment, safety and health.\textsuperscript{54} It is an 'enabling' law since it contains provisions which allow the making of rules for various activities and areas of concern. The act aims to take measures for the prevention, control and abatement of environmental pollution.\textsuperscript{55} It confers powers on persons to complain to the courts regarding any violation of the provisions of the Act, after a notice of 60 days to the prescribed authorities.

The Environment Protection Act (EPA) has been extensively and creatively used since its introduction in 1986. The crux of the Act and its Rules is that it empowers the Centre [the Ministry of Environment and Forests (MoEF)] with tremendous power to take actions ‘for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution’. It is a general legislation which covers all kinds of pollution including noise pollution. The MoEF through the EPA has taken actions like the formulation of standards, guidelines, Rules, creation of Boards, Authorities, appointment of officers, taking punitive action against offenders of the Act, establishment of institutions, labs, dissemination of information to name a few.

Section 6 of the Environment (Protection) Act, 1986 pertains to the powers of the Centre to make rules for protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. This section specifically states that the rules can provide for the prohibition and restriction on the location of industries, and the carrying on of processes and operations in different areas. Subsequent notifications under the Environment Protection Act, 1986 have also made it mandatory to conduct

\textsuperscript{54} See, the “Statement of Objects and Reasons” of the Environment (Protection) Act, 1986. See also, \textit{Essar Oil Ltd. v. Halar Utkarsh Samiti,\textsuperscript{2004} 2 SCC 392 at 400.}

\textsuperscript{55} There are further provisions which are helpful for this purpose like laying down standards for discharge of environmental pollutants, empowering any persons to enter, inspect, take samples and test, establishing or recognizing environmental laboratories, appointment of government analysts, laying down procedures and safeguards for handling hazardous substances, constituting an authority or authorities for exercising its powers, issue directions to any person, officer or authority including the power to direct closure, prohibition or regulation of any industry, operation or process or stoppage or regulation of supply of electricity, water or any other service.
environmental impact assessments (EIAs) for specified developmental activities and have made public hearings mandatory for all developmental activities that require environmental clearance from the MOEF.

The Environment Protection Act, 1986 authorizes the Central government to take suitable action required to protect and improve environmental quality, control and reduce pollution from all sources, and prohibit or restrict the setting and/or operation of any industrial facility on environmental grounds. Section 3(2)(v) allows the Centre to restrict areas where any industries, operations or processes or class of industries, operations or processes shall not be carried out or shall be carried out subject to certain safeguards. The Act can be cursorily described as a central legislation that makes the Central Government a ‘pro-active watchdog’ of the environment. It strives to improve environmental quality and it also reigns in development processes where they threaten environmental resources. In practice this has included an interesting assortment of things.

The Environment (Protection) Rules cover management and handling of hazardous wastes, manufacture, storage and import of hazardous chemicals and rules for the manufacture, use, import, export and storage of hazardous micro-organisms, genetically engineered organisms or cells. Rule 5(1) of the Environment (Protection) Rules, 1986 states that the Centre can impose prohibitions and restrictions on the location of industries and the carrying on processes and operations in different areas. Some of these regions declared as ESA by the MoEF have been accorded special statuses, which have been spelt out in their individual notifications. The terms used to describe such areas in the notifications are: Ecologically Sensitive Areas (ESA) or Ecologically Fragile Areas (EFA) or No Development Zones (NDZ or, Ecologically Sensitive Zones (ESZ) and under the recently-notified Coastal Regulation Zone (CRZ) Notification 2011 for designation of Critically Vulnerable Coastal Areas (CVCAs). It is to be noted that the Environment Protection Act and Rules do not make any mention of such terms. They merely refer to the powers of the Centre to restrict activities in particular areas.
The most commendable development in the context of marine environment under the provisions of the EPA is the Coastal Regulation Zone (CRZ) notifications. In exercise of the powers conferred by Clause (d) of sub-rule (3) of Rule 5 of the Environment (Protection) Rules, 1986, and all other powers vesting in its behalf, the Central Government declared the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters which are influenced by tidal action (in the landward side) upto 500 metres from the High Tide Line (HTL) and the land between the Low Tide Line (LTL) and the HTL as Coastal Regulation Zone and imposed with effect from the date of this Notification, the certain restrictions on the setting up and expansion of industries, operations or processes etc., in the said Coastal Regulation Zone (CRZ).

(vi) The Coastal Regulation Zone (CRZ) Notification, 2011

The Ministry of Environment and Forests,(MoEF) Government of India, has created a statutory innovation in the form of a legal notification for the planned development and protection of coastal areas, including the reservation of areas in coastal zones set aside as No-Development Zones. The Central Government issued the Coastal Regulation Zone Notification under Section 3 of the Environmental Protection Act and under Rule 5(3) (d) of Environmental Protection Rules, 1986, declaring the coastal stretches in the country as Coastal Regulation Zone.\(^{56}\)

The land which extends from the beginning of the coastal plain to the beginning of the continental shelf constitutes the coastal zone. The coastal regions are extremely productive lands hosting nearly a quarter of the earth’s primary plant production, the world’s major spawning grounds and fish nurseries and also some of the most fertile agricultural lands. It occupies only a marginal portion of the country’s territory nevertheless it is home to a disproportionately large section of the population.

The objective of the 1991 CRZ Notification was to protect the coastal areas from becoming degraded due to unplanned and excessive development

\(^{56}\) The Coastal Regulation Zone (CRZ) Notification was introduced in 1991 and sought to govern industrial and other activities in the coastal zones. The CRZ Notification came into immediate effect on the same day and was made applicable to the entire 6,000 km coastal belt of India and, in addition, to riverine stretches affected by tidal action.
which results in pollution and the eventual destruction of this highly prized, fragile and irreplaceable natural resource. The Coastal Regulation Zone Notification issued on 6th January 2011 under Section 3 (1) & Section (2) (v) of the Environment (Protection) Act 1986 and Rule 5 (3) (d) of the Environment (Protection) Rules 1986, supersedes the CRZ Notification issued on 19th February 1991.57

CRZ Notification 2011 is a specialised Notification regulating developmental activities by restricting the setting up and expansion of industries, operations or processes along the coast.58 MoEF using the 1991 notification as its base also codifies the 25 amendments to the notification. Its stated objectives are to ensure livelihood security to the fishing communities and other local communities living in coastal areas; conserve and protect coastal stretches; and promote development in a sustainable manner based on scientific principles, taking into account the dangers of natural hazards in the coastal areas and sea level rise due to global warming.

Like the 1991 notification, the 2011 notification classifies the 0 to 500 m coastal strip into four categories59. CRZ I (ecologically sensitive areas); CRZ II

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57 The 2011 Notification takes into account and address all the above issues in a comprehensive manner, relying on the recommendations made in the “Final Frontier” Report by the Committee chaired by Dr. M.S. Swaminathan on Coastal Regulation and the findings of the various consultations held in various coastal States and Union territories.

58 Among the activities that are today prohibited outright in CRZ Areas are the following:
(a) Setting up of new industries and expansion of existing ones;
(b) Manufacture and handling oil storage or disposal of hazardous substances;
(c) Setting up and expansion of units or mechanism for disposal of wastes and effluents Discharge of untreated waste and effluents from industries, cities, towns and other human settlements;
(d) Land reclamation, bunding or disturbing the natural course of sea water;
(e) Mining of sand, rocks and other substrata minerals:
(f) Drawing of groundwater, using mechanical means; and
(g) Dressing or altering of sand dunes, hills and other natural features, including landscape changes, for beautification, recreation, etc.
(h) Setting up and expansion of fish processing units
(i) Dumping of city or town wastes including construction debris, industrial solid wastes, fly ash for the purpose of land filling and the like.

59 The concept of classification of CRZ into four zones has continued in the 2011 notification with the following delineation:
1. CRZ I- ecologically sensitive areas such as mangroves, coral reefs, salt marshes, turtle nesting ground and the inter-tidal zone.
2. CRZ II- areas close to the shoreline and which have been developed.
3. CRZ III- Coastal areas that are not substantially built up, including rural coastal areas.
4. CRZ IV- water area from LTL to the limit of territorial waters of India. Clearances for obtaining CRZ approval have been made time-bound.
In the 1991 notification CRZ IV covered the islands of Andaman and Nicobar and Lakshadweep. A separate notification – the Island Protection Zone Notification has now been issued for protection of the islands.

The notification defines the CRZ to include the land area from the high tide line (HTL) to 500 m on the landward side, as well as the land area between HTL to 100 m or width of the creek, whichever is less, on the landward side along tidal influenced water bodies connected to the sea. The CRZ also includes, for the first time, the water and bed area between the low tide line (LTL) to the territorial water limit (12 nautical miles) in case of the sea, as well as the water and the bed area of tidal influenced water bodies, such as creeks, rivers and estuaries. The concept of a “hazard line”, to be demarcated taking into account tides, waves, sea level rise and shoreline changes, the area under the CRZ is defined to expand where the hazard line falls beyond the 500 m line on the landward side. The stated purpose of demarcating such a hazard line is to protect life and property of coastal communities and infrastructure in coastal areas. The notification also introduces two categories of “Areas requiring special consideration”. One, special dispensations are provided for Greater Mumbai, Goa and the backwater islands of Kerala. Two, it provides for notifying Critical Vulnerable Coastal Areas (CVCA), including the Sunderbans mangrove area and other ecologically important areas, through a process of consultation with local fisher and other communities inhabiting the area.

The notification takes cognisance of the problem of erosion in coastal areas due to human interventions, and proposes to classify the coastline into “high eroding”, “medium eroding” and “low or stable stretches”. Ports and harbour projects, with the exception of projects for strategic and defence-related purposes, will not be permissible in high eroding areas, while comprehensive environmental impact assessment (EIA) reports with cumulative studies will be required for projects in stretches classified as low- and medium-eroding.
The 2011 Notification lists out certain measures that have to be taken to prevent pollution in the coastal areas or the coastal waters. The disposal of wastes and effluents into coastal waters is a prohibited activity. All coastal states are required to ensure that i) the existing practice of discharging untreated waste and effluents is phased out within a period not exceeding two years; ii) dumping of solid waste is phased out within one year from the commencement of the Notification; iii) an Action Plan is to be prepared for dealing with pollution in coastal areas and waters and in a time bound manner and iv) the Action Plan is to be submitted to MoEF who would provide technical and financial assistance.

The CRZ Notification, 2011 lays out the method and the time frame in which actions shall be taken against any violations of the Notification. The Coastal Zone Management Authority (CZMA) at the State level and the National Coastal Zone Management Authority (NCZMA), at the Central level shall be strengthened in a time bound manner and their capacities enhanced by MoEF for effectively enforcing the Notification. The violation shall be identified by using latest appropriate maps, satellite imagery and information technology within a period of four months from date of issue of the 2011 Notification and necessary action will be initiated in accordance with the Environment (Protection) Act, 1986 within a period of four months thereafter.

(vii) The Forest (Conservation Act) 1980

The act was enacted to help conserve the country’s forests. It strictly restricts and regulates the de-reservation of forests or use of forest land for non-forest purposes without the prior approval of Central Government. To this end the Act lays down the pre-requisites for the diversion of forest land for non-forest purposes. This provision has proved very effective in preventing diversion of mangrove forest area for non-forestry purpose. 60This act was amended in 1988 which made provisions for dealing with violators. This Act is one of the most effective legislations contributing to reduction in deforestation.

60 The Indian Forest Act, 1927 and the Wildlife (Protection) Act, 1972 provide protection to flora and fauna. Although they do not specifically mention mangroves, these acts can also apply to the conservation of the flora and fauna of mangrove ecosystems. Since 1927, the Indian Forest Act has been applied to the mangrove forests of the Sundarbans, which have been declared as a reserved area.
This was enacted to reduce indiscriminate diversion of forest land for non-forestry purposes, and to help regulate and control the recorded forest land-use changes. The main areas of tropical forest are found in the Andaman and Nicobar Islands; the Western Ghats, which fringe the Arabian Sea coastline of peninsular India; and the greater Assam region in the north-east. The forests play vital role in harboring more than 45,000 floral and 81,000 faunal species of which 5150 floral and 1837 faunal species are endemic. The nation has established 597 Protected Areas comprising 95 National Parks, 500 Wildlife Sanctuaries 2 conservation reserves covering 1.56 million ha area or 4.75 percent geographical area of the country. These provisions lend a support to the cause of protection and preservation of the coastal marine biodiversity.

(viii) Indian Fisheries Act, 1897

Be it fresh water or marine water species, fishes are a vital biotic component of the aquatic ecosystem. The provisions applicable on riverine fisheries and fisheries in inshore waters affect the coastal fishery resources as well. The Indian Fisheries Act, 1897 which is meant to regulate riverine fisheries and fisheries in inshore waters, prohibits the use of poisons and dynamite in fishing, and to protect fish resources in selected waters through regulation, among other things, the erection and use of fixed engines (the reference is to nets, cages, traps, etc.), the construction of weirs, the use of nets of certain types and dimensions, etc.

Before modernization and large scale development of fisheries sector in India, the colonial government viewed fisheries as a source of revenue, and in order to ensure its continuous revenue, developed measures to conserve it from 'illegal' and 'destructive' fishing. The Indian Fisheries Act, 1897 became a central legal instrument to achieve this policy objective. The aquatic and marine resources of India were legislated upon by the Indian Fisheries Act, 1897, which intended to establish penal offences for the placement of

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61 http://www.wwfindia.org/about_wwf/what_we_do/forests/, accessed on 23.10.09.
62 Section 5.
63 Section 4.
64 Section 6.
explosive substances or poisonous material in the water with the intent of destroying the catch of fish.

The Act is applicable only up to the territorial waters and fisheries being a state subject under the constitution several state legislatures have passed separate state fisheries act applicable in the territorial waters depending upon the local conditions in the states.

(ix) Marine Fishing Regulation Act (MFRA), 1978.

Fisheries within the 12-mile territorial limits are managed under the Marine Fishing Regulation Acts (MFRAS) of the maritime States of India. The main emphasis of MFRAS is on regulating fishing vessels in the 12-nautical mile territorial sea. The basis of the Act is a model piece of legislation which was prepared by the Ministry of Agriculture, Government of India, in 1979, inorder to protect the fishing space and equipment of the fishermen community who operated the unpowered traditional fishing vessels from the bottom trawlers. Industrial fishing vessels like bull trawlers are highly destructive since they scrape the seabed and destroy the marine vegetation. Such activities also deplete marine stock by damaging fish eggs and small fishes. Thus, the Act has been mainly used for the purpose of maintaining law and order at sea as it provides guidelines to the maritime states to enact laws for protection to marine fisheries by regulating fishing in the territorial waters. Laws have been framed and amended from time to time by different maritime states. It is under the MFRAS that coastal States declare a closed season for fishing to protect fish resources. The MFRAS were first implemented in the States of Kerala and Goa in 1980. They were subsequently enacted in other States, the latest being in 2003, in Gujarat. While the earliest MFRAS were enacted only for regulation of fishing vessels along the coastline of the State, the Gujarat MFRA provides for protection, conservation and development of fisheries in inland and territorial waters of the State of Gujarat and for regulation of fishing in the inland and territorial waters along the coastline of the State.
The Coastal Aquaculture Authority Act, 2005 (24 of 2005) enacted by the Central Government on 23 June 2005 provides for the establishment of the Coastal Aquaculture Authority for regulating the activities connected with coastal aquaculture in coastal areas and matters connected therewith or incidental thereto. The Act mandates the Central Government to take all such measures as it deems necessary or expedient for regulation of coastal aquaculture by prescribing guidelines, to ensure that coastal aquaculture does not cause any detriment to the coastal environment and the concept of responsible coastal aquaculture contained in the guidelines shall be followed in regulating coastal aquaculture activities to protect the livelihood of various sections of people living in the coastal areas.

The Coastal Aquaculture Authority Act and Rules were enacted to establish a Coastal Aquaculture Authority and to regularize aquaculture activities. The Authority has been constituted to make regulations for the construction and operation of aquaculture farms within the coastal areas; to inspect coastal aquaculture farms with a view to ascertaining their environmental impact caused by coastal aquaculture; to register coastal aquaculture farms; to order removal or demolition of any coastal aquaculture farms which is causing pollution after hearing the occupier of the farm. The Act and Rules have been challenged on various grounds such as allowing coastal aquaculture to be carried out between 200-500m from the HTL (high tide line), a provision that is in contravention of the Coastal Regulation Zone Notification; failure to regulate farms that have come into existence prior to 2005 and farms that are used for research purposes by the Government, a provision that is especially detrimental in CRZ-1 areas of ecologically sensitive areas the lack of clear guidelines for monitoring and implementation; lack of specifications for effluent quality monitoring, not mandating effluent treatment systems for farms under 5 hectare in size; no requirement for environmental clearances, environmental monitoring and environmental management plans for farms lesser than 40 hectare in size; etc.

65 Section 4.
66 Section 11.
(xi) The Marine Products Export Development Authority Act (MPEDA), 1972

The Marine Products Export Development Authority Act, 1972, establishes an authority whose primary function is the development and regulation of offshore and deep-sea fishing and undertaking measures for conservation and management of fisheries. The Marine Products Export Development Authority (Authority) with its Head office at Kochi, Kerala under Government of India, Ministry of Commerce and Industry, is a statutory body constituted under the Marine Products Export Development Authority Act 1972 (No. 13 of 1972). The functions of the authority are to promote and develop quality of Marine products specifically for exports through disbursement of subsidies. The role envisaged for the MPEDA under the statute is comprehensive - covering fisheries of all kinds, increasing exports, specifying standards, processing, marketing, extension and training in various aspects of the industry.

(xii) The Indian Ports Act, 1908

The Indian Ports Act, 1908 confers the power of administering major ports to the Central Government and lays down rules for safety of shipping and conservation of ports. The Major Port Trusts Act, 1963 specifies that the administration, control and management of major ports lie with the respective Port Trusts. Ballast water or rubbish and any other thing likely to form a bank or shoal or to be detrimental to navigation, shall not, without lawful excuse, be cast or thrown into any such port or into or upon any place on shore from which the same is liable to be washed into any such port, either by ordinary or high tides, or by storms or land-floods. The act prohibits any discharge of oil or water mixed with oil in or into any such port. As per Chapter III of Indian Ports Act, 1908, the responsibility for controlling and monitoring pollution within harbour waters rests with the Conservator of the Port. Under the powers conferred by sub-section (1) of section 6 of the said Act, the Central Government made the Major Ports (Prevention and Control of Pollution) Rules, 1991.
(xiii) The Coast Guard Act, 1978

In 1974, the Government of India set out to create an autonomous coast guard to protect the nation’s long coast line. This coast guard was modelled on the lines of the British and American coast guards. In August 1976, the Maritime Zones of India Act was passed, which defined the Exclusive Economic Zones surrounding the Indian sub-continent where Indian sovereignty would be applied. The Coast Guard was formed within the Indian Navy on 1 February 1977 to respond to smuggling and poaching by foreign vessels, as well as to contribute to marine pollution control, performing the same border control functions for the Navy as the Border Security Force does for the Army and works closely with the Indian navy and the Indian Customs Department. The Indian Coast Guard is the fourth service created to guard Republic of India’s vast coastline and is the principal agency for enforcement of provisions of all national enactment in force in the maritime zones of India and provides following services to the Nation and marine community.

Under this Act, India claimed 2.01 million sq km of sea area in which she has the exclusive rights for exploration and exploitation of resources, both living and non-living at sea. The maritime zones of India is patrolled by the Coast Guard which is also responsible for taking such measures as are necessary to preserve and protect the maritime environment and to prevent and control marine pollution. The Coast Guards who are appointed under the Coast Guard Act work under the general superintendence, control and direction of the Central Government. The duties of the Coast Guard also includes the prevention of illegal activities like smuggling, pollution, to enforce other maritime laws in those areas and to ensure the safety of life and property at sea. In keeping with this the Coast Guard is mandated to apprehend any person/vessel that carries marine life that is protected by the Wildlife Protection Act (WLPA). However, since the Coast Guard is not empowered under the WLPA, their role is limited to apprehending contraveners of the provisions of the WLPA and handing them over to the Wildlife Warden.

The Coast Guard Act, 1978 provides for the constitution and regulation of an Armed Force of the Union for ensuring the security of the maritime
zones of India with a view to the protection of maritime and other national interests in such zones. Among other things, it provides for safety and protection of islands and offshore structures; protection and preservation of maritime environment and endangered species; prevention and control of pollution in the maritime zones; assistance to fishermen in distress at sea; safeguarding life and property at sea; preventing poaching in Indian waters; assisting in ocean research-related activities; enforcing maritime law; and carrying out other duties as and when assigned by the Government of India, without duplication of efforts.

The act elicits that the coast guards may carry out their tasks in close liaison with the union agencies, institutions and authorities to avoid duplication of effort. Therefore the coast guard organization only combats oil pollution beyond 5 km in the seas around India and supervises surveillance against intentional dumping of oil or other wastes by ships or tankers visiting passing the Indian waters. The Coast Guards Act, 1978, has been enacted to provide for the establishment of an armed force of the Union for ensuring the security of the maritime zones of India with a view to protecting the maritime and other national interests in such zones. One of the important duties of the Coast Guard is the enforcement of maritime legislations, which includes regulation of illegal fishing and poaching, and preservation and protection of the marine environment. In this regard, the Coast Guard has formulated the National Oil Spill Disaster Contingency Plan which lays down a series of actions to be taken in the event of a major disaster of this nature and contains standard formats for reporting spills as well as forwarding data on equipment holding in the country. Since the late 1970s, the Coast Guard has undertaken 29 oil spill operations.

(xiv) The Merchant Shipping Act Of 1958

The Merchant Shipping Act of 1958 provides civil and criminal liability regimes in the case of marine pollution. Part XI A of the Act, amended in 2003, contains provisions for incidents of marine casualty or acts relating to such casualty occurring with grave and imminent danger to Indian coast line or related interests from pollution or threat of pollution in the sea or air either
by deliberate, negligent or accidental release of oil, ballast water, noxious liquid and other harmful substances into sea or including such incidents occurring on the high seas. It makes it mandatory for the Indian ships to have several certificates such as the international oil pollution prevention certificate, international pollution prevention certificate if it is an Indian oil ship or ship carrying noxious liquid substances in bulk, international sewage pollution prevention certificate, and international pollution prevention certificate.\textsuperscript{67} Part X B of the Act which deals with the civil liability of the owner of an Indian or foreign vessels that cause marine pollution in the territorial waters or Exclusive Economic Zone and defines the liability of owner\textsuperscript{68} due to pollution damage. The definition of pollution damage is restricted to loss or damage caused outside the ship by contamination resulting from escape or discharge of oil from that ship, wherever such escape or discharge occurs, and includes the costs of preventive measures and further loss or damage caused by preventive measures\textsuperscript{69} and excludes any liability due to pollution by the release/spillage of ballast water or noxious liquids. Another discrepancy in the Act is that though it seeks to penalize all pollution incidents irrespective of the manner in which it is committed, provisions are made to provide immunity to persons who are able to prove that such damage has not been caused willfully. Also, the provisions for containment of accident pollution\textsuperscript{70} in Part XI A are also limited to oil pollution and do not include pollution due to other contaminants such as ballast water.

The Merchant Shipping Act, 1958 aims to ensure the development and efficient maintenance of an Indian mercantile marine sector in a manner best suited to the national interests. It has established a National Shipping Board and a Shipping Development Fund, to provide for the registration of Indian ships and generally to amend and consolidate the law relating to merchant shipping. The Act defines “fishing vessel” as a ship fitted with mechanical means of propulsion, which is exclusively engaged in fishing for profit.\textsuperscript{71} An

\begin{itemize}
\item \textsuperscript{67} See Section 356C.
\item \textsuperscript{68} See Section 352J.
\item \textsuperscript{69} Section 352H(d).
\item \textsuperscript{70} Section 356K.
\item \textsuperscript{71} Section 76 (4) specifies competency requirements for officers on fishing vessels of 25 GRT and above.
\end{itemize}
amendment in 1983 to section 435 (on Power to make rules respecting sailing vessels) which led to the insertion of part XVA on fishing boats also laid down the procedures for registration of fishing boats. It applies to fishing boats of 20 meters and above, while specifying that the Central government will have the power to declare that boats of less than 20 meters shall be required to be registered under The Merchant Shipping Act, 1958.


The Environment Impact Assessment Notification, 1994 (EIA 1994), adopted under the Environment Protection Act, prescribed a mandatory EIA procedure for various types of projects. The notifications and all its amendments have now been replaced by a comprehensive EIA Notification published on 14 September 2006 (EIA 2006). In EIA 2006, various activities have been identified where an EIA report is mandatory. The notification envisages that the various activities be classified into two categories, ‘A’ and ‘B’, based on the spatial extent of potential impact, and possible effects on human health and natural and man-made resources. New projects as well as expansion and modernization of existing projects falling under the mentioned activities will require prior environmental clearance. Whereas category-A activities require clearance from the central government, category-B activities require clearance from a state-level Environment Impact Assessment Authority (SEIAA).

(xvi) Customs Act, 1962

The Customs Act was enacted in the year 1962 under Entry 41 of List I of the Seventh Schedule of the Constitution of India which deals with trade and commerce with the foreign countries, import and export across customs frontiers and the definition of custom frontiers and Entry 83 of the same List which gives the Central Government the power to impose duties of customs including export duties in the country. The main purpose of the Customs Act is to prevent illegal imports and exports in the country.

The jurisdiction of the Act was further extended to the whole of the Exclusive Economic Zone and the Continental Shelf of India for certain
purposes vide Notification dated 7th February, 2002 issued by the Ministry of External Affairs. The purposes specified in this notification are (i) the prospecting for extraction or production of mineral oils in the Continental Shelf and Exclusive Economic Zone of India, and (ii) the supply of any goods [as defined in Section 2(22) of the Customs Act, 1962] in connection with any of the activities mentioned in clause (i) above.

The Act vests the Central Government with the power to prohibit either absolutely or subject to certain conditions, the import and export of goods of any specified description. Further prohibition can also be imposed based on specific purposes such as the maintenance of the security of India, maintenance of public order, maintaining the standards for classification, protection of human, animal or plant life or health, conservation of exhaustible natural resources etc. The Act also provides for the Central Government to impose stringent conditions in order to detect and prevent the illegal exports of specified goods in the specified area i.e. the customs water as defined in Section 2(28). This provision when read with Section 11M of the Act which provides for the regulation of the sale or transfer of these specified goods can help prevent the illegal export of marine products from the biosensitive marine regions.

(xvii) Biological Diversity Act, 2002.

The Union Ministry of Environment and Forests (MoEF), the nodal agency for implementing the provisions of Convention on Biological Diversity (CBD) in India, developed a strategy for biodiversity conservation at macro-level in 1999 and enacted the Biological Diversity Act in 2002, followed by the Rules there under in 2004. The National Environment Policy, 2006, seeks to achieve balance and harmony between conservation of natural resources and development processes and also forms the basic framework for the National

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72 Section 11.
73 Section 11H (c).
Biodiversity Action Plan.  

The MoEF was nominated the focal point for the CBD. The MoEF constituted a core group in January 1994, even prior to the ratification of the convention, to discuss elements of the national law, rules and regulations that would have to be enacted to give force to the provisions of the CBD. The core group consisted of representatives from different ministries of the Government, and from the non-governmental sector (NGOs). This latter group included leading environmental NGOs, researchers and activists.

The Act (2002) primarily addresses the issues concerning access to genetic resources and associated knowledge by foreign nationals, institutions or companies, and equitable sharing of benefits arising out of the use of these resources and associated knowledge by the country and its people. The Act is implemented through three functional bodies viz., NBA at the national level, State Biodiversity Boards (SBBs) in different states, and Biodiversity Management Committees (BMCs) at the level of local community (Panchayat). The Indian government has established 15 Biosphere Reserves of India, which protect larger areas of natural habitat and often include one or more National Parks and/or preserves, along buffer zones that are open to some economic uses. Protection is granted not only to the flora and fauna of the protected region, but also to the human communities who inhabit these regions, and their ways of life. Seven of the fifteen biosphere reserves are a part of the World Network of Biosphere Reserves, based on the UNESCO Man and the Biosphere (MAB) Programme list. There are two methods of biodiversity conservation, in situ and ex situ. The former envisages conservation within the natural ecosystem such as protected areas (wildlife sanctuaries, national parks, biosphere reserves, heritage sites, etc.), and the

74 The World Conservation Monitoring Centre recognized 17 mega diverse countries in July 2000 including Australia, Brazil, China, Colombia, Democratic Republic of the Congo (DRC) (formerly Zaire), Ecuador, India, Indonesia, Madagascar, Malaysia, Mexico, Papua New Guinea, Peru, the Philippines, South Africa, the United States of America (USA) and Venezuela. Together, these 17 countries harbour more than 70% of the earth’s species. India became a signatory to the CBD in December 1993 and ratified the Convention in February 1994.

75 http://www.nbaindia.org/act/act_english.html, accessed on 09.10.11.

latter is a method of conservation outside natural habitats (botanical and zoological gardens, gene banks, seed banks etc). In case of domesticated or cultivated species, conservation means conservation in the surroundings where they have developed their distinctive properties. The purpose of the formation of the biosphere reserve is to conserve in situ all forms of life, along with its support system, in its totality, so that it could serve as a referral system for monitoring and evaluating changes in natural ecosystems.

The provisions of the Biological Diversity Act, 2002 and the Biological Diversity Rules, 2004 several programmes have been initiated in the States. The Biological Diversity Rules 2004 provide legal support for biodiversity conservation, protection of IPR and for the formation of State Biodiversity Boards. State Biodiversity Boards have been constituted in majority of States.

3.1.3. India and International Conventions

India is a party to the major international conventions dealing with marine pollution. India became a Consultative Party Member of the Antarctic Treaty system in 1983 and has ratified the Protocol on Environmental Protection to the Antarctic Treaty. As regards maritime safety, India is a party to the International Convention for the Safety of Life at Sea, 1974. To boost regional cooperation in the South Asian Association for Regional Cooperation (SAARC) region under the United Nations Environment Programme (UNEP) Regional Seas Programme, India is a party to the South Asian Cooperative Environment Programme (SACEP). In addition, India has also ratified the International Whaling Convention and the Ramsar Convention on Wetlands of International importance, 1971. India has designated 21 Ramsar Sites including Keoladeo National Park, Chilka lake, Loktak lake, Wular lake, Sambhar lake, and Harike lake. Action has been initiated to designate 25 more wetlands as Ramsar sites. There is a close coordination between implementing unit of Ramsar with that of CBD at the national level. India took

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Laws related to intellectual property rightly from part of the global initiates in biodiversity conservation. A product derived by the activity of the productive human mind or intellect is referred to as intellectual property. Cultural and artistic knowledge, industrial designs, logos that come in the ambit of trade marks (pictorial or verbal), music related products, sound recording, biotechnology products, industrial secrets, etc comes with in the framework of intellectual properties.
a lead role in the formulation of Ramsar guidelines on integration of wetlands into river basin management. As a follow up to this, CBD-Ramsar River Basin Initiative was undertaken and a joint programme was developed for integrated management of wetlands, biological diversity, and river basins. The models developed for Loktak and Chilka have been extensively used at the regional level to demonstrate that successful stakeholders led wetland conservation and management. Restoration of Chilka lake through effective water management, community participation, and providing sustainable economic benefits to the community is cited as a model for rehabilitation of biodiversity and livelihood support to the community dependent upon the lake. Ramsar Award was conferred to Chilka Development Authority for this exemplary wetland restoration model.

3.1.4. Other Initiatives

The subject matter of environment is a complex one and the same holds for marine environment too. Preservation and protection of marine environment has many players involved. Apart from the legal network of legislations and courts we have Non Governmental Organisations involved with the marine environment and its resources and institutions which have been managing various technical and scientific aspects of marine resources. Their role in the campaign for marine environment cannot be ignored.

(i) People’s initiative

India’s coastal areas and resources have been managed within a framework of traditional knowledge which has been accumulated over the centuries. Community groups such as fishers and other coastal populations enjoyed customary or traditional rights to exploit resources and to fish in adjacent coastal areas, including lagoons and coral reefs. With the years of ‘development’, while benefiting a few; have resulted in the marginalization of several others. Charitable and voluntary organizations have since quite some time been contributing significantly towards the protection of the health of the coasts as well as the interests of the coastal community. Non-Governmental Organisations (NGOs) - the NGOs have moved the courts on various occasions on violation of environmental rights. The role of NGOs in creating
environmental consciousness in society, as well as their role in informing the public policies has been crucial. Marine environment and its wellbeing involve a number of other factors like the question of livelihood of local fishing community in case of any development in the coastal regions. The Bombay Natural History Society, Building And Enabling Disaster Resilience Of Coastal Communities (BEDROC), Kalpavriksh, Greenpeace India, Coastal Protection Campaign, Dakshin Foundation and Pondy Citizens’ Action Network (Pondy CAN) are a few of the associations which have taken up the various issues related to the marine and coastal resources in one way or the other.

The role of NGOs assumes significance in view of their wider engagement in civic and development initiatives. Over last few decades, NGOs have become important players in the development process across the globe, engaged in wide ranging activities starting with community development to training, policy research, and advocacy. Their organisational flexibility, informal work style, and close engagement with grassroots communities enable them to deliver services to people at lower costs.

(ii) Institutional arrangements

In 1981, order to achieve adequate coverage for monitoring of our coastal waters, Department of Ocean Development Centre was established in the major laboratorues in maritime States. Signalling a change of perspective, the government in 2006 has reorganised the Ministry of Ocean Development as the Ministry of Earth Sciences.  

The Ministry has two attached offices viz. ‘Centre for Marine Living Resources and Ecology (CMLRE) Kochi and Project Directorate for Integrated Coastal and Marine Area Management (ICMAM) at Chennai, and one National Centre for Medium Range Weather Forecasting (NCMRWF) at NOIDA (U.P.). It has one subordinate office namely, the India Meteorological Department (IMD) with its headquarters at New Delhi. The Ministry has also four autonomous societies under its administrative control viz.

78 The Ministry of Earth Sciences formed in 2006 from a merger of the India Meteorological Department (IMD), the National Centre for Medium Range Weather Forecasting (NCMRWF), the Indian Institute of Tropical Meteorology (IITM), Pune, and Earth Risk Evaluation Centre (EREC), and the Ministry of Ocean Development.
3.2. JUDICIAL ATTITUDE

Environment pollution and degradation is not a new frontier for the Indian judiciary. Environmental deterioration could eventually endanger life of present or future generations. Protection of environment in India is an established norm. The Supreme Court has elevated the ‘right to healthy environment’ to the status of a fundamental human right under Article 21 of the Constitution in the process of progressive enrichment of the environmental jurisprudence with principles like sustainable development, polluter pays and precautionary principle, public trust doctrine and intergenerational equity.79

The Judiciary observes in the opening line of the judgment of the Supreme Court on CRZ pertaining to the Indian Council of Enviro-Legal Action v. Union of India 80, that if the mere enactment of laws could ensure a clean environment, perhaps India would be pollution-free 81 and opines that despite enactment of several laws the desired result has not been achieved due to their poor implementation. The development of the Indian environmental jurisprudence has seen a considerable share of initiative by the Indian judiciary, particularly the higher judiciary, consisting of the Supreme Court of India, and the High Courts of the States.

The Precautionary Principle, “Polluter Pays” Principle, Sustainable Development and Inter-generational Equity are some doctrines which are used by the judiciary, invariably to adjudicate cases of environmental

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79 The Supreme Court, in its interpretation of Article 21, has facilitated the emergence of an environmental jurisprudence in India, while also strengthening human rights jurisprudence; Subhash Kumar v. State of Bihar AIR 1991 SC 420, 424; see, M.C.Mehta v. Union of India (Delhi Stone Crushing Case), 1992 (3) SCC 256, 257, and Chameli Singh v. State of Uttar Pradesh, AIR 1996 SC 1051, 1053; when deriving the right to shelter under Article 21 the Supreme Court held that this right would include “the right to decent environment and a reasonable accommodation to live in.” Shantistarp Builders v. Narayan K. Totame, AIR 1990 SC 630.

80 AIR 1996 SC 1446.

81 Divan, Shyam & Rosencranz, Armin; Environmental Law and Policy In India, (2002).
pollution. There are numerous decisions wherein the right to a clean environment, drinking water, a pollution-free atmosphere have been given the status of inalienable human rights and, thus, fundamental rights of each and every individual.82

Such large-scale environmental degradation and adverse effects on public health prompted environmentalists and residents of polluted areas, as well as non-governmental organizations, to approach the courts, particularly the higher judiciary, for suitable remedies. There is near complete academic agreement that the concerted involvement of the higher judiciary in India with the environment began with the relaxation of the rule of *locus standi* and the departure from the “proof of injury” approach.

Despite its achievements in the form of landmark legal decisions in the environment protection, the higher Judiciary doesn’t have many significant decisions dealing with marine pollution, marine environment and its degradation. Marine pollution is not dealt with specifically or defined explicitly under any Indian legislation. The growth of the international concern for the marine resources has brought the apparent causes and sources of marine pollution to the forefront. Marine pollution originates from land based sources or the vessel sourced pollutants. Even though the Pollution control laws do not deal with marine pollution directly, they still play a role in regulating some (one or more) sources of marine pollution. For example, legislations controlling sewage and waste disposal in rivers or the development work in coastal areas help to protect marine environment although within limited parameters. Marine species or their habitats get protection if they find place in the protected areas or in the endangered species list of the enacted statutes.

There is a catena of case law which concerns management of the Indian coast. Most of the decisions relate to the interpretation of Coastal

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Regulation Zone Notifications in the larger context of the Environment Protection Act, 1986. These following judgments provide an insight into the judicial mind which has been applied by the judges in striking a balance between the concern for conservation and protection of the fragile eco-system and meeting the demands of development in the area. The case laws also demonstrate the legal possibilities and limits of judicial reasoning in rendering environmental justice. The judicial attitude in relation to marine pollution can thus be analyzed via scrutiny of decisions which deal with CRZ notifications, protected areas, endangered species, shipping regulations and the likes. Other than these general provisions, there are no specific regulations to regulate use of trawlers and other activities such as coral mining etc., which greatly damage the coral reef structures in India.

The need to protect the coastal and marine resources fueled the coming into force of the CRZ notifications. And the majority of Supreme Court cases dealing with marine environment have arisen under this enactment only. In Consumer Education & Research Centre & Ors. v. Union of India & Ors., the Court observed that the Constitution is the supreme law envisaging social justice as its arch to ensure life to everyone to be meaningful and livable with human dignity. Jurisprudence is the eye of law giving an insight into the environment of which it is the expression. It relates the law to the spirit of the time and makes it richer. Law is the ultimate aim of every civilised society, as a key system in a given era, to meet the needs and demands of its time. Justice, liberty, equality and fraternity are supreme constitutional values to establish the egalitarian social, economic and political democracy. Social justice, equality and dignity of person are cornerstones of social democracy. Social justice consists of diverse principles essential for the orderly growth and development of personality of every citizen.

Concern for the protection of ecology and for preventing irreversible ecological damage to the coastal areas of the country had led to the filing of the writ petition in Indian Council for Enviro-Legal Action v. Union of India and

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(1995) 3 SCC 42.
The main grievance in this petition was that the notification dated 19-2-1991 which declared coastal stretches as Coastal Regulation Zones which regulated the activities in the said zones had not been implemented or enforced. The hon'ble court made the observation that: "...enactment of a law, but tolerating its infringement, is worse than not enacting a law at all....Law is usually enacted because the legislature feels that it is necessary. It is with a view to protect and preserve the environment and save it for the future generations and to ensure good quality of life that the Parliament enacted the anti-pollution laws, namely, the Water Act, Air Act and the Environment (Protection) Act, 1986.... Violation of antipollution laws not only adversely affects the existing quality of life but the non-enforcement of the legal provisions often results in ecological imbalance and degradation of environment, the adverse effect of which will have to be borne by the future generations....."

The apex court concluded that there being a 6000 kms long coastline of India, it was the responsibility of the coastal States and Union Territories in which these stretches exist to see that both the notifications are complied with and enforced. Management Plans have to be prepared by the States and approved by the Central Government. Finally the States which had not filed the Management Plans with the Central Government were directed to file the complete plans by 30-6-1996. The Central Government was to finalise and approve the said plans, with or without modifications within three months thereafter. The court famously held that while economic development should not be allowed to take place at the cost of ecology or by causing widespread environment destruction and violation; at the same time the necessity to preserve ecology and environment should not hamper economic and other developments. Both development and environment must go hand in hand, in other words, there should not be development at the cost of environment and vice versa, but there should be development while taking due care and ensuring the protection of environment.

Though the Coastal Regulation Zone (CRZ) notification was enacted 1991, it was never brought into force till the Apex court intervened. The Supreme Court in the landmark case of S. Jagannath v. Union of India & Ors 85 heard for the first time the case regarding the non-implementation of the CRZ notification, effects of stoppage of intensive and semi-intensive type of prawn farming in the ecologically fragile coastal areas and for prohibiting the use of wastelands and wetlands for prawn farming. The constitution of a National Coastal Zone Management Authority to safeguard the marine and coastal areas was another contention which the court had to look into. 86

The court addressed the problem of marine pollution and the causes which were leading to the undesirable effect in the Indian coastal waters. It categorically made the Indian obligation on marine pollution very clear. It stated “In the background of the Stockholm Conference and in view of 1982 Convention on the “Law of the Sea” defining jurisdiction of territorial waters, a model comprehensive Action Plan has been evolved under the United Nations’ Environment Programme (UNEP). Keeping with the international commitments and in greater National interest, the Government of India and the Governments of the coastal States are under a legal obligation to control marine pollution and protect the coastal-environments.”

The hon’ble court while presenting the health status of the Indian coastal areas acknowledged that our Country being riverine, has 14 major, 44 medium and 55 minor rivers which discharge annually about 1566 thousand million cubic meters of water through land drainage into the seas transporting a wide range of pollutants generated by land-based activities. In the context of marine environment resources the court brought focus on the Central Board for the Prevention and Control of Water Pollution (Central Board) recommendation in its report "coastal pollution control series COPOCS/1/1982" which stated that: - “the mangrove forest at Pichavaram, the bird sanctuary and forest areas at Point Calimere and Coral reef at

86 The allegation of the petitioner was that the coastal states were allowing big business houses to develop prawn farms on a large scale in the coastal States in violation of the EPA, 1986 and various other provisions of law.
Mandapam are ecologically sensitive areas warranting special watch and preservation...."

The consequences of modern shrimp farming techniques on the coastal health were questioned. Through the NEERI reports and other voluminous material on the record, Mr. M.C. Mehta, learned counsel for the petitioner, contended vehemently that the modern other than traditional techniques of shrimp farming are highly polluting and are detrimental to the coastal environment and marine ecology. According to him only the traditional and improved traditional systems of shrimp farming which are environmentally friendly should be permitted.87

The Supreme Court ordered and directed the Central Government to constitute an authority under Section 3(3) of the Environment (Protection) Act, 1986 and confer on the said authority all the powers necessary to protect the ecologically fragile coastal areas, sea shore, water front and other coastal areas and specially to deal with the situation created by the shrimp culture industry in the coastal States/Union Territories along with completely prohibiting the shrimp culture ponds within the CRZ as defined under the CRZ notifications. The court said that sustainable development or shrimp aquaculture should be guided by the principles of social equity, nutritional security, environmental protection and economic development with a holistic approach to achieve long-term benefits.

The importance of water, maintaining its wholesomeness bears relation to the marine resources as well and this has been a subject matter of number apex court decisions. In the case of A.P. Pollution Control Board II v. M.V. 87 Mr. Mehta with the help of the Notification dated February 19, 1991 issued by the Government of India under Section 3 of the Environment (Protection) Act, 1986 vehemently contended that setting up of shrimp farms on the coastal stretches of seas, bays, estuaries, creeks, rivers and backwaters upto 500 meters from the High Tide Line (HTL) and the line between the Low Tide Line (LTL) and the HTL is totally prohibited under Para 2 of the said notification. Annexure-1 to the CRZ Notification contains regulations regarding Coastal Area Classification and Development. The coastal stretches within 500 m of HTL of the landward side are classified into four categories, namely, CRZ-I, CRZ-II, CRZ-III and CRZ-IV. Para 6(2) of the CRZ Notification lays down the norms for the development or construction activities in different categories of CRZ areas. In CRZ-III Zone agriculture, horticulture, gardens, pastures, parks, playfields, forestry, and salt manufacture from sea level may be permitted upto 200 m from the high tide line. The aquaculture or shrimp farming has not been included as a permissible use and as such is prohibited even in this zone.
Nayudu, Court observed that the right to have access to drinking water is fundamental to life and it is the duty of the State under Article 21 to provide clean drinking water to its citizens. The Court in Narmada Bachao Andolan v. Union of India, observed as under: "Water is the basic need for the survival of human beings and is part of the right to life and human rights as enshrined in Article 21 of the Constitution of India....."

In M.K.Balakrishnan & Others Petitioners v. Union of India & Others, the petition related to the conservation of wetlands for protecting the environment and maintaining the ecology. The apex court's Bench comprising Justices Markandey Katju and H.L. Dattu issued a directive on April 28, 2009 to the Central government to forthwith constitute a Committee which would do scientific research on a war footing to solve the water shortage in the country. The court opined that the right to get water is a part of the right to life guaranteed by Article 21 of the Constitution.

It was also observed by the Court in Delhi Water Supply & Sewage Disposal Undertaking and Anr. v. State of Haryana and Ors. that water is a gift of nature and human hand cannot be permitted to convert this bounty into a curse, an oppression. The primary use to which water is put being drinking, it would be mocking nature to force the people who live on the bank of a river to remain thirsty. Similarly in Chameli Singh & Ors. v. State of U.P. & Ors. a bench of three judges of the apex Court observed: ".........Right to live guaranteed in any civilized society implies the right to food, water, decent environment, education, medical care and shelter. These are basic human rights known to any civilized society. All civil, political, social and cultural rights enshrined in the Universal Declaration of Human Rights and Convention or under the Constitution of India cannot be exercised without these basic human rights.".............
In Centre for Environmental Law World Wide Fund for Nature v. State of Orissa\textsuperscript{93} the petitioners sought the intervention of the High Court to stop a project involving the construction of a fish landing Centre at Talchua as flora and fauna were directly going to be affected in and around the Bhitarkanika Wildlife Sanctuary. Every year, tens of thousands of Olive Ridley sea turtles congregate on the beaches of Orissa and lay eggs in a unique and spectacular mass-nesting phenomenon known as \textit{arribada}. Unfortunately, thousands of breeding adult turtles die by drowning after being trapped in fishing trawler nets. The Orissa High Court has been hearing a Wildlife Protection Society of India (WPSI)\textsuperscript{94} petition on the protection of these rare marine animals, and other conservation matters, since 1998. The issue was heavily politicised by an influential lobby of mechanised fishing boat owners who fish at unsustainable levels along the Orissa coast. Using data provided by WPSI, a private citizen filed a petition in 2002 before the Central Empowered Committee (CEC) The CEC has shown a keen interest in this matter. In March 2003, it issued a set of Interim Directions, asking the Orissa State government to implement various turtle conservation measures. The Orissa government replied to these Interim Directions by claiming that they had all been complied with. Using data provided by WPSI, the petitioner as able to prove that directions had been implemented half-heartedly and that turtle protection measures were still not adequate. The CEC is still hearing the case.

The Apex court in \textit{Fomento Resorts and Hotels Ltd. and another v. Miguel Martins and others}\textsuperscript{95} reiterated that natural resources including forests, water bodies, rivers, sea shores, etc. are held by the State as a trustee on behalf of the people and especially the future generations. These constitute common properties and people are entitled to uninterrupted use thereof. The State cannot transfer public trust properties to a private party, if such a transfer interferes with the right of the public and the Court can invoke the public trust doctrine and take affirmative action for protecting the right of people to have access to light, air and water and also for protecting rivers, sea, tanks, trees, forests and associated natural eco-systems.

\textsuperscript{93} AIR 1999 Ori. 14.
\textsuperscript{94} It is a registered non-profit organisation, funded by a wide range of Indian and international donors.
\textsuperscript{95} (2009) 3 SCC 571.
While dealing with the construction of a hotel in Goa for a sea-beach resort, the Supreme Court in *Goa Foundation v. Diksha Holdings Pvt. Ltd.* held that economic development had to be maintained. The permission granted by the State Government was based upon a proper consideration of the Coastal Regulation Zone (CRZ) notification dated 19.2.1991 issued by the Ministry of Environment and Forests, Government of India under ss.3 (1) and 3 (2) (v) of the Environmental Protection Act, 1986 and Rule 5 (3) (d) of the Rules and approved by the Coastal Zone Management Plan of the State of Goa. The plot of land allotted to the hotel fell within an area ear-marked as settlement (beach/ resort) by notification of the Governor of Goa under the Goa, Daman and Diu Town and Country Planning Act, 1974 and situated in category CRZ—III.

In *Goa Foundation and anr. v. Konkan Railway Corporation and ors.* (the Konkan Railway Case) the court chose the path of supporting a developmental activity notwithstanding the damage it caused to the fragile environment. The reasons given were that the court chose not to interfere in a policy decision of the government in which heavy investments were already made. The legal basis of drawing conclusions is debatable as provisions of Railways Act were interpreted to prevail over the stipulations under the Environment Protection Act.

Meeting the demands of energy by the government weighed heavily on the judicial mind when the Supreme court in the *Dahanu Taluka Environment Protection Group and anr. v. Bombay Suburban Electricity Supply Company Ltd.* and Ors and *Bombay Environment Action Group and Anr. v. The State of Maharashtra and Ors* gave the go ahead to the proposed Thermal Power Projects. Flouting of government guidelines and adverse impact on the coastal environment did not cut ice with the court as it felt power generation and making the same available as most essential for overall economic progress. All the same, there was a praise worthy element in the judgement that required the involvement of well informed groups in the decision -making.

96 (2001) 2 SCC 97.
97 AIR 1992 Bom. 471.
98 (1991) 2 SCC 539.
processes of the government concerning such developmental activities. The subordination of environmental interests to the cause of development is clearly evident in these Court judgments.

A number of cases decided by the higher judiciary project their concerns for conservation. In *Centre for Environmental Law v. State of Orissa* 100 the Orissa High Court issued a number of instructions to be observed by the governmental agencies in permitting any activity within the Bhitarakanika wildlife sanctuary. The instructions were aimed at protecting the flora and fauna, of which some were endemic to the region. In *Consumer Action Group v. Union of India* 101 known as The Adyar Creek Case, the conservation of wetlands was the issue. It concerned erection of a memorial in honour of Dr. Ambedkar on a wetland. The court deftly handled the sensitive issue by counselling the government to reconsider the proposal in a more rational way and ensure the ecological integrity of the wetlands. The case of *People United for Better Living in Calcutta v. State of West Bengal* 102 related to the establishment of World Trade Centre on wetlands. In the absence of relevant information before the court that would have justified undertaking of a developmental activity without adversely affecting the integrity of a very special eco-system, the Calcutta High Court did not approve of the proposed state action.

The apex court yet again favoured development in its decision in *M. Nizamudeen v. M/s. Chemplast Sanmar Limited and others* 103. The Ministry of Environment and Forests (MOEF) granted environment clearance to the project proposed by Chemplast for manufacturing Poly-Vinyl Chloride (PVC) and to install a Marine Terminal Facility ("MTF") near the seashore for receiving and transferring Vinyl Chloride Monomer VCM from the ships to the PVC plant through underground pipeline under the provisions of under the provisions of Coastal Regulation Zone Notification, 1991. Chemplast made an application to the Executive Engineer, PWD, seeking permission for carrying seawater and raw-materials through pipelines laid 3.50 meter below the river

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100 1998 (86) CLT 247.
101 (1994) 1 MLJ 481.
102 AIR 1993 Cal. 215).
bed the Executive Engineer granted permission but in less than a month cancelled the aforesaid permission observing that VCM may cause pollution and health hazard to the public. High Court set aside the order of the Executive Engineer revoking the permission granted appellant filed PIL praying that the order granting permission by the Executive Engineer be quashed and Chemplast be directed to forebear from laying of pipelines for drawing VCM raw-material from jetty to their plant. High Court dismissed the said petition. The appeal was whether Uppanar river and its banks at the point where pipelines pass, fall in the CRZ III area.

The controversy pertained to whether paragraph 2(ii) of 1991 Notification restricts transfer of VCM (hazardous substance) beyond port area to the PVC plant through pipelines. In court applied the purposive construction which has often been employed to avoid a lacuna and to suppress the mischief and advance the remedy. It is a settled rule that if the language used is capable of bearing more than one construction and if construction is employed that results in absurdity or anomaly, such construction has to be rejected and preference should be given to such a construction that brings it into harmony with its purpose and avoids absurdity or anomaly as it may always be presumed that while employing a particular language in the provision absurdity or anomaly was never intended. It was the Apex Court's view that if the transfer of hazardous substances is confined to terminals and refineries located in the port areas only, it would render the said provision unworkable and would also result in absurdity inasmuch as the hazardous substance would be brought in to the port, refinery or terminal in the port area from the ship and would remain there and could not be taken beyond the port area because of the prohibition.

104 Section 2. Prohibited Activities:
The following activities are declared as prohibited within the Coastal Regulation Zone, namely: (i) ............
(ii) manufacture or handling or storage or disposal of hazardous substances as specified in the Notifications of the Government of India in the Ministry of Environment & Forests No. S.O. 594(E) dated 28th July, 1989, S.O. 966(E) dated 27th November, 1989 and GSR 1037(E) dated 5th December, 1989; 3[except transfer of hazardous substances from ships to ports, terminals and refineries and vice versa, in the port areas:]

105 It was contended by the senior counsel for the appellant/petitioner that transfer of VCM in CRZ area is completely prohibited and VCM cannot be carried through the CRZ except in the port area. Their argument is that VCM can be brought onshore by pipeline to the port area but not in the CRZ area.
This Court observed that the permission granted to Chemplast by the MOEF is in exercise of the powers conferred under paragraph 3(2)(ii) of 1991 Notification, thus held no illegality in the permission granted by the Executive Engineer.

*In Krishnadevi Malchand Kamathia & Ors. v. Bombay Environmental Action Group & Ors.* 106 it was held that no court can validate an action which is not lawful at its inception. The Apex Court averred that the mangrove forests are of great ecological importance and are also ecologically sensitive. The Coastal Regulatory Zone Regulations, 1991 allow for salt harvesting by solar evaporation of sea water in CRZ-I areas only where such area is not ecologically sensitive and important. Thus, salt harvesting by solar evaporation of sea water cannot be permitted in an area that is home to mangrove forests. Therefore the act of the appellants of constructing a sort of pukka bund using boulders and debris along with a huge platform, under the garb of repairing the old bund, the court held, violated the norms of environmental law and was in flagrant violation and utter disregard of orders passed by the courts and the District Collector. It was held that they had knowingly and purposely damaged the mangroves and other vegetation of the wet land of the CRZ-I area, which could not have been disturbed. Appellants were directed to restore the height and width of the bund as it was existing prior to the order passed by the District Collector. The court further held that if an order is void, it is required to be so declared by a competent forum and it is not permissible for any person to ignore the same merely because in his opinion the order is void. The apex court allowed the contempt proceedings filed by the District Collector and the Action Group and the contempt petition filed by the appellants were dismissed with directions.

*In National Trust for Clean Environment v. Union of India & Another* writ petitions were filed in the year 1996 – 1998 107 in the Madras High Court challenging the Environmental clearance and against the setting up of the Copper Smelting Plant at Tuticorin. The judges held that according to the

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106 AIR 2011 SC 1140.
NEERI report the company was located within 25 km of Gulf of Mannar,\textsuperscript{108} which was declared a National Park in 1986. In fact, the Tamil Nadu Pollution Control Board (TNPCB), while granting permission to the company, had stipulated that its location should be 25 km from any ecologically sensitive area. The Madras High Court ordered the immediate closure of Sterlite's copper smelting plant in Tamil Nadu over claims of the company's smelter unit causing air pollution and the plant's close proximity to ecologically sensitive areas. The sole violation of erecting the plant within the prohibited area of ecologically sensitive area was deemed by the courts to be a sufficient cause for the Central Government to reject the proposal of the company.

The Government of India is a signatory to 1971 Convention of Ramsar\textsuperscript{109} (Iran) where it is declared that Kolleru is a wet land ecosystem of international importance. The lake supports bio-diversity and high biomass of fish plankton which constitute the source of food for birds. The Supreme Court in \textit{T. N. Godavarman Thirumalpad v. Union of India & Ors} \textsuperscript{110} upheld the Committee of Technical Experts issued directions for demolition of all fish tanks constructed inside the Kolleru Wild Life Sanctuary.\textsuperscript{111} The court relied on Section 29, Wild Life (Protection) Act, 1972 which specifically prohibits commercial activity inside the Sanctuary. It prohibits commercial activity which diverts stops or increases the flow of water into or outside the Sanctuary. The courts averred that when a bund is formed in a sanctuary or a lake it seeks to encapsulate an area which in turn obstructs free flow of water in the lake bed area.

The problem of hazardous substance has an international dimension more so in the context of marine environment. Increasing consciousness of environment and health hazard is forcing the developed nations to dump

\textsuperscript{108} The Gulf of Mannar region, abounds in bio-diversity and about 2000 species of marine forms and 200 species of plants are reported to have been found in the region and there are 21 islands near Tuticorin which has been declared and constituted as Marine National Parks, vide g.O.ms.No.962, Forest and Fisheries dated 10.9,1986 with a view to protect the unique and fragile flora and fauna in the region.

\textsuperscript{109} In the said convention it is decided that encroachments in the lake would not be tolerated. The said convention is also known as Wet Land Convention.

\textsuperscript{110} (2001) 10 SCC 645.

\textsuperscript{111} Kolleru Lake is one of the largest shallow freshwater lake in Asia located between the delta of Krishna and Godavari rivers in the State of Andhra Pradesh Ecologically it is a wet land ecosystem.
hazardous and dangerous substances mainly wastes in the third world countries as the liability threshold is much lower in these countries. The absence of a wider consensus among exporting and importing countries is eluding the adoption of a comprehensive policy of ending all trade in hazardous waste at the global level despite the Basel convention and numerous under nations instruments and efforts. These international and regional instruments do not make all exports to developing countries as illegal.

Ship breaking is the process of dismantling an obsolete vessel’s structure for scrapping or disposal. It is an activity which involves deriving value from the materials and equipments comprising end of life ships. Ship breaking activities is a threat to both the terrestrial and marine environment as well as to public health. It is like a mini version of a city that discharges every kind of pollutants a metropolis can generate like liquid, metal, gaseous and solid pollutants.

The general issue of control and management of hazardous waste has been under consideration in the Hon’ble Supreme Court in writ petition (civil) no. 657 of year 1995 between Research Foundation for Science Technology National Resource Policy and Union of India and others. The various State Governments/Central Ministries were affected in this case and Ministry of Environment and Forests (MOEF) was the nodal Ministry. On 13 February 2006, the Supreme Court of India decided that the French carrier Clemenceau is to stay outside Indian waters and requested India’s Defense Ministry to form a panel to assess the amount of toxic waste on the ship. In Research Foundation for Science v. Union of India and Anr the Court deemed it is necessary to constitute a Committee of technical experts who could, after obtaining views and inviting suggestions from those who would like to give them to find out whether the infrastructure as existing at Alang presently was adequate for ship breaking or not. If according to the Committee, it was not adequate it shall indicate the deficiencies, and shall

also suggest remedial measures to upgrade the infrastructural facilities. The court held that for this purpose, Union of India shall, as early as practicable, constitute a Committee of technical experts, some of them having Navy background, preferably retired officers, The Committee was then directed to submit its report to the Court within eight weeks.

In Research Foundation for Science Technology and Natural Resource Policy v. Union of India and Others, the question involved was whether the Court should grant permission for dismantling of the ship "Blue Lady" at Alang, Gujarat. The "Blue Lady" ex SS Norway was a passenger liner was beached in the year 2006 off the Alang coast. The Apex Court while granting the permission to the said recycler to dismantle the said ship "Blue Lady" as recommended by constituted Committee of Technical Experts (TEC) held that while applying the concept of "sustainable development" one has to keep in mind the "principle of proportionality" based on the concept of balance which requires striking a balance between the priorities of development on one hand and environmental protection on the other hand.

Most recently in Research Foundation for Science v. Union of India, faced with a petition from Indian-based Toxics Watch Alliance, a leading environmental organization, India’s Supreme Court ruled on 30 July 2012 that end-of-life ships containing hazardous materials, such as asbestos or PCBs, must follow the Basel Convention rules on global movements of hazardous wastes. The court directed the concerned authorities to strictly comply with the norms laid down in the Basel Convention or any other subsequent provisions that may be adopted by the Central Government in aid of a clean and pollution free maritime environment, before permitting entry of any vessel.
suspected to be carrying toxic and hazardous material into Indian territorial waters. This ruling means that India can no longer accept ships from Europe or the United States. It also means that India must first be notified as to all hazardous materials contained on-board and must approve of ship importation from all sources for scrapping prior to vessel arrival in India. Previous to this decision and despite India being a Party to the Basel Convention.  

In *UT of Lakshadweep v. Seashells Beach Resort*, the Supreme Court set aside the order of the Kerala high court which allowed tourist sites to come up in Lakshadweep islands without obtaining various clearances regarding environment, coastal zone restrictions, conversion of land and other rules. The high court had proceeded on “humanitarian and equitable considerations, neglecting more important questions that have an impact on the future development of the islands.” The Supreme Court observed in its judgment that such considerations are misplaced in a situation where the erection of buildings violated the coastal regulatory zones requirements. The court appointed an expert committee headed by its ex-judge, Justice R V Raveendran, to make a comprehensive report on all aspects of development of the islands from the tourist and environmental angles.

In India, the federal Ministry of Environment and Forests has the prime responsibility for the protection of the marine environment, including implementation of legislative measures, and for the management of resources in the coastal waters. Federal Ministry of Agriculture is responsible for the development of fisheries and for fish processing. However, since fisheries are primarily a state subject, legislation and policies concerning local fisheries, except for coastal waters, are made at the provincial level in India. The judiciary has shown that it is capable of ensuring that even the most powerful comply with the law of the land. In *Goa Environment Federation v. State of Goa; Director, Directorate of Fisheries; Goa Fishing Boat Owners Association; Geonchea Rapankaracho; National Institute of Oceanography;*

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118 Available at http://bargad.org/2012/08/02/exxon-valdez-india-supreme-court-toxic
shipbreaking/.

Union of India the Court accepted the Government of Goa’s decision to impose a total fishing ban by all mechanized fishing vessels and trawlers from 10th June to 15th August or Narali Poornima, whichever is earlier, every year for the protection of marine resources. The court has acted in response to a letter addressed by a citizen to the High Court complaining that there was severe ecological damage because of the Government’s decision to reduce the ban on mechanized fishing from 90 days (1st June to 31st August) to mere 54 days (ending 24th July). The petitioner had informed the court that the monsoons were the breeding season for a large number of fish species especially those consumed by the common man. It was contented that if this situation continued, it would mean depletion of fish resources leading to fish famines in the immediate future. The court converted the letter into a suo moto Public interest litigation (PIL).

In Essar Oil Ltd. v. Halar Utkarsh Samiti & Ors, the Supreme Court had to answer the question whether pipelines carrying crude oil could be permitted to go through the Marine National Park and Sanctuary. The answer to the question depended on an interpretation of the provisions of three statutes, the Wild Life (Protection) Act, 1972, the Forest (Conservation) Act, 1980 and the Environment (Protection) Act, 1986. The court emphasized that the interpretation had to be done keeping in mind the Stockholm Declaration of 1972 which had been described as the “Magna-Carta of our environment”. Essar Oil Ltd. had sought to lay pipelines to pump crude oil from a single buoy mooring in the sea across a portion of a Marine National Park and Marine Sanctuary to their oil refineries in Jamnagar District. On the basis of public interest litigation petitions the High Court had held that Essar was not allowed to lay its pipelines.

The courts observed that it cannot be said that the invariable consequence of laying pipelines through ecologically sensitive areas will be the destruction or removal of the wild life. Thus there can be no a priori presumption of destruction of wild life in the laying of pipelines. But at the same time these observations were not meant as a general licence to lay a

\[120\] (2) BCR 762, Writ Petition No. 212/2000.
The court held that every application had to be dealt with on its own merits keeping in view the need to sustain the environment. In conclusion, given the in depth scrutiny of the possible damage which could be caused by the laying of the pipelines and the stringent conditions imposed to obviate such possible damage, and the opinion of the expert bodies consulted, the court saw no reason to interfere with the grant of permission to lay the pipelines. The leave was therefore granted.

In India, Idol worship has been in practice since ancient times. On festive occasions, such as Vinayaka Chathurthi, Durga Puja, Sarswati Puja etc., it has been a tradition to immerse idols in water bodies like rivers, lakes, ponds, estuaries, open coastal beaches, wells etc. Idol worship has been in the practice in India since ancient time. To worship God and Goddess only natural things like Milk, Curd, Ghee, Coconut, Beetal and River Water is usually used. Idols are made with clay and then coloured with natural colours like Turmeric. The religious scripts, mythology and rituals have attempted to drive the importance of preserving nature by adoring it through the centuries. In present scenario, metals, ornaments, oily substances, synthetic colours, chemical are used in polish and decorate idols for worship and when these idols are immersed the aquatic and surrounding environment get severally affected.

In the matter of PIL / W.P.(C) No. 1325/2003 Janhit Manch v. the State of Maharashtra & Ors., the Hon'ble High Court of Mumbai in its order dated 22/07/2008 gave the following directions to the Central Govt.: “We expect that the Central Govt. will consider laying down of guidelines for immersion of idols and would also consider related matters with regard to pollution of water bodies. Both the Union Government as well as the State Government shall consider it expeditiously because the time lost involving the pollution might prove dangerous for environment of the country in long run”.

In view of the directions of the Hon'ble High Court, Central Pollution Control Board (CPCB) constituted a Committee, vide order No. A-22011/1/90-Mon, dated February 10, 2009. Various initiatives were taken by the State
Pollution Control Boards (SPCBs) such as Tamil Nadu and West Bengal to prevent pollution due to idol immersion and studies carried out by the Central Pollution Control Board (CPCB) in Bangalore, Delhi and Kolkata. Finally in pursuance to the directions of the Hon'ble Bombay High Court, CPCB evolved the Guidelines for immersion of idols and other puja materials reaching in the water bodies during festival.

In the year 2012 the Government agencies, along with Kolkata Municipal Corporation (KMC), geared up to see that the river Ganga remains clean during the Pujas, especially during immersion. All the municipalities in the Kolkata Metropolitan Area were made responsible for their part of the river bank. The Kolkata Municipal Corporation(KMC) and Kolkata Port Trust (KoPT) prepared a detailed action plan to comply with the High Court’s order for cleaning river Hooghly after immersion of Idols. Both the agencies have a mammoth task of keeping the river clean after immersion of over 1100 idols in the river. According to the KMC officials, more than 300 person were deployed at 14 ghats and other 10 places in Kolkata where the idols were taken for immersions.121

Apart from these superior Courts, the subordinate civil courts too exercise powers in regard to public and private nuisances. (sec. 9 and sec. 91 of the Code of Civil Procedure Code, 1908) which too can be resorted to curb the menace of marine pollution. Criminal Courts exercise powers under various sections of the Indian Penal Code (IPC) dealing with offences relating to environment. Chapter XIV of the IPC refer to offences under sections 269, 270, neglecting or doing malignant acts likely to spread infectious diseases dangerous to life, disobedience of quarantine rules (sec. 271), fouling water of public spring or reservoir (sec. 277), making atmosphere noxious to health (sec. 278), negligent conduct with respect to poisonous substances, fire or combustible matter, explosive substances, machinery, and pulling down or repairing buildings; animals (sec. 291), endangering life or personal safety of others (sections 336 to 338), mischief (sec. 425), mischief by injury to works of irrigation or by wrongly diverting water (sec. 430), mischief by injury to

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public road, bridges, river or channel (sec. 431), mischief by causing inundation or obstruction to public drainage, attended with damage (sec. 432), and culpable homicide (sec. 299 to 304A). Chapter X of the Code of Criminal Procedure, 1973 also contains provisions for enforcement of various provisions of the substantive law (for e.g. sec. 133 CrPC). All these offences today go for trial before the ordinary criminal courts. The appropriate criminal court will deal with the matter and are identified on the basis of the territorial jurisdiction and depending upon its power to award sentence of imprisonment to any person for particular number of years. The appeals on the criminal side are governed by the laws relating to criminal procedure. It cannot be disputed that environmental matters have to be taken up early and are being monitored from time to time.

Indian Judiciary has historically played a pioneering role in environmental law enforcement and compliance. Based on this principle, the Indian courts have created groundbreaking laws for effective environmental compliance and enforcement. The efforts of the Indian judiciary resulted in enactment of National Green Tribunal Act of 2010, that proposes to efficiently and expeditiously dispose of cases relating to environmental protection and conservation of forest and the natural resources including enforcement of legal rights relating to environment and giving relief and compensation for damages to persons and property and for matters enumerated therewith or incidental thereto.

The word environment is a broad spectrum which brings within its hue hygienic atmosphere and ecological balance. Saving this planet Earth is now of utmost concern to the entire humanity. The Judiciary has been the backbone for developing a large body of environmental jurisprudence, even though policy enforcement has been weak. It is hard to assess this novel legislation due to lack of precedent and application. However, evidence shows that the National Green Tribunal will play a leading role in environmental enforcement and compliance and will become a role model for enactment of similar. Over the last two decades, the Indian judiciary has fostered an extensive and innovative approach to environmental rights in the country. Complex matters of environmental management have been resolved
and consequently a series of innovative procedural remedies have evolved to accompany this new substantive right. The new environmental right is therefore championed as a legal gateway to speedy and inexpensive legal remedy.

What is needed from an environmental angle is a vision for the future. We have got sufficient laws to protect the environment (though the same cannot be said for marine environment in specific), but its implementation is in the hands of administrative authorities. Despite the limitations of jurisdiction, the Courts have played a vital role in the field of environmental justice.