



International and National Instruments and Marine Turtle Conservation in India

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1. Introduction

Traditionally, the turtle has been considered the *Kurma Avtar*¹ in Hindu Mythology. In fact the turtle's carapace is believed to support the earth! The various *yogasanaas*² also include the *kacchappasana* or the "turtle asana" as one of the important asana (poses). In addition to this, numerous classical dance forms in India have poses of turtles or tortoises. The most notable is the *Odissi* — a unique dance form of the State of Orissa, on the East Coast of India. With such a rich traditional linkage it is not surprising that olive Ridley sea turtles have chosen the beaches of Orissa as their largest nesting site for the wondrous phenomenon called "arribada." This is not to say that marine turtles are exclusive to the coasts of Orissa, for India is blessed with several rich coastal ecosystems where marine turtles occur. The coasts of the states of Gujarat, Andhra Pradesh, Kerala, Tamil Nadu, Maharashtra, and Goa, as well as the Lakshadweep and Andaman and Nicobar Islands all have turtle nesting beaches. Four species of marine turtle are known to nest in India: green turtles (*Chelonia mydas*), leatherbacks (*Dermochelys coriacea*), hawksbills (*Eretmochelys imbricata*), and olive Riddleys (*Lepidochelys olivacea*); and there is also the rare record of the loggerhead (*Caretta caretta*).

Despite such a rich heritage, all is not well for the turtles in India. In the past, turtle eggs were traded, and occasionally the meat was also consumed.³ At present, the threats to marine turtle conservation, however, are more indirect than direct. Developmental activities along the coast perhaps pose a greater challenge to turtle conservation than any direct onslaught on the turtles themselves. Over-fishing, trawling, lack of regulation and enforcement of fishing gear specifications — particularly turtle excluder devices, oil spills and pollution along the coast, including discharge of untreated/unsatisfactorily treated municipi-

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¹ Reincarnation of Lord Vishnu, one of the most popular of Hindu Gods.

² The poses or exercises in Yoga, a traditional meditation form in India.

³ From Orissa boat loads of turtle eggs were traded with the neighbouring state of West Bengal. Further, in West Bengal, for instance, turtle meat was eaten for a harvest festival called Paush Sankranti, dedicated to Goddess Laxmi (the Goddess of wealth), S. Chadha and C.S. Kar, *BHITARKANIKA MYTH AND REALITY* (Natraj Publishers, Dehra Dun, 1999).

pal waste and industrial waste, beach sand mining, large scale construction activities along the coast, port construction activity in and around turtle nesting sites, and urbanisation of the coast with impacts such as bright lighting incompatible with the habitat requirements of turtles are just a glimpse of the magnitude of the problems that beset turtle conservation in India.

Yet, the problem of marine turtle conservation transcends the situation in India. The World Conservation Union (IUCN) Red Data List 2000⁴ lists six species of marine turtles (five of which are also reported from India) as needing special conservation attention, and out of these six, two are listed as “critically endangered.” This shows that conservation of these species is of international concern.

This paper explores the international and national legal regimes of India, and how they relate to the threats that have emerged in the conservation of marine turtles and their habitats. By no means are all of the threats enumerated above covered entirely within the ambit of the law. However, a brief description of the key features of the different instruments has been outlined to demonstrate the interactions between international and national regimes in marine turtle conservation.

2. International law and its bearing on national legislation

At the outset, it is pertinent to mention that international law is effective only when there is national legislation that reflects the spirit of the international instruments, thus providing an implementation platform for the multilateral measures. It is in this light that any international law regime has to be assessed in its effectiveness for marine turtle conservation.⁵ International Law, more often than not, has been considered as soft law and thus lacks the required “teeth” for its efficacy, especially at the national level. However, without getting into the merits of soft and hard law, it is important to understand that there are a number of international covenants that India is a Party to, which, amongst other things, do provide a strong legal framework for marine turtle conservation in India. This has assumed even greater significance with the judiciary playing a more liberal role by incorporating the mandates of international instruments in national decisions, thus providing more legitimacy both to its own decisions as well as to the international instruments to which India

⁴ C. Hilton-Taylor (compiler), 2000 IUCN RED LIST OF THREATENED SPECIES IUCN (2000).

⁵ For example, the 1996 Inter-American Convention for the Protection and Conservation of Sea Turtles is the only international treaty dedicated exclusively to sea turtles, setting standards for the conservation of these “endangered” animals and their habitats. The Convention came into force on 2 May 2001, after having received the required number of eight ratifications, see S. Namnum, *The Inter-American Convention for the Protection and Conservation of Sea Turtles and its Implementation in Mexican Law*, 5(1) J. INT’L WILDLIFE L & POL’Y 87–103 (2002). Of central relevance to this paper, India has played an active role in the finalisation of The Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA), an agreement recently concluded under the Convention on Migratory Species (CMS), see D. Hykle, *The Convention on Migratory Species and Other International Instruments Relevant to Marine Turtle Conservation: Pros and Cons*, 5(1–2) J. INT’L WILDLIFE L & POL’Y 105–119 (2002).

is a Party.⁶ In regards national regimes, most attempts so far have been towards enacting legislation for habitat conservation, which impacts the species of turtles that need to be protected. For example, the Wildlife Protection Act, 1972, (WLPA),⁷ not only lists all the species of marine turtle found in India in its Schedule I, indicating that all of them have been accorded the highest protection under the Indian legal regime, but it also establishes a network of protected areas which could protect the habitats of marine turtles.⁸ It is in the light of the above that it becomes important to describe the legal framework within which marine turtles may be seen, for a number of laws are highly relevant to them, although this may not be immediately obvious. This can be done in two steps. Firstly, the way international law and its implementation in India have developed, particularly that which affects marine ecosystems in general, and marine turtles in particular. This will be followed by an analysis of national legislation focused on protecting marine habitats, and especially marine turtles.

3. International law on marine conservation and its implications on marine turtles⁹

The process of development of international law on marine conservation evolved with ad hoc attempts to regulate specific problems arising out of various maritime operations, notably with agreements dealing with pollution by oil.¹⁰ This was followed by agreements on the prohibition and regulation of dumping practices of ships at sea,¹¹ among others.¹² It was only with the growing realization that prevention of marine pollution should be a matter of comprehensive legal obligation that general principles and guidelines for the preservation of marine environment began to emerge. Likewise, the regime for conserva-

⁶ In *M/s Ivory Traders Association vs Union of India and others* [AIR 1997 Del 267] the Delhi High Court has invoked the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on the question of ivory imports into India and banned such trade as pernicious and dangerous. The Court negated the argument that Article 19(1)(g) of the Constitution of India, relating to freedom of trade of an individual, is being violated and held that trade in ivory or its products would not only harm the endangered elephant but would also violate CITES, to which India is a Party; and by signing the said international instrument India is obligated to the international community to conform to its provisions.

⁷ See *infra* Section 4.2.2.1 for a detailed discussion on the Wildlife Protection Act.

⁸ The Bhitarkanika National Park in Orissa, India, is one such example.

⁹ Section 3 focuses on only those international instruments to which India is a Party, although other instruments not necessarily signed or ratified by India are mentioned in the paper.

¹⁰ The International Convention for the Pollution of the Sea by Oil (OILPOL), London, 1954, 12 UST 2989; TIAS 4900; 327 UNTS 3.

¹¹ International Convention for Prevention of Pollution from Ships (MARPOL). Concluded at London on 2 November, 1973, IMCO Doc. MP/CONF WP.35 (1973), 12 I.L.M 1319 (1973).

¹² International instruments such as the Convention on the High Seas, Geneva, 1958, and the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969, are also relevant, although India is not a Party to these Conventions. Some of the other Conventions, which might be relevant and to which India is a Party, include the Convention on Facilitation of International Maritime Traffic, London, 1965; the International Convention on Load Lines, London, 1966; and the Convention on the International Regulations for Preventing Collisions at Sea, London, 1972.

tion of both living and non-living resources also developed first with the regulation of the various uses of these resources. For example, the Convention on High Seas¹³ embodies the general understanding that the freedom of the high seas includes freedom of fishing. However, the decision in the Fisheries Jurisdiction Case (United Kingdom vs Iceland)¹⁴ has established a principle that states that fishing on the high seas has the duty to attend to the needs of conservation of the living resources affected. The basis for regulation and enforcement has been the sovereign right of each State, over the natural resources in its territorial seas. However, in recent times the perception that various mineral and living marine resources, including endangered species, need to be conserved, has led to more sophisticated international legal regimes on marine conservation. In accordance with this brief evolutionary perspective, an analysis of regulation of marine laws that impact turtle conservation may be carried out under the following two broad heads: (a) prevention of marine pollution, and (b) conservation of marine resources. As the Republic of India is Party to each of the following international accords, the measures that they establish are germane.

3.1. International law and the prevention of marine pollution

Pollution arising out of various maritime activities in the seas includes both that occur from normal operational activities and accidental pollution. The objective of international law for prevention of pollution arising out of maritime operations has been to eliminate the need for noxious discharges by way of technical solutions and by augmenting shore facilities. In addition, international regulations also seek to redress pollution caused by the dumping of wastes and other noxious matters in the sea. Thus, States are obligated to prevent, reduce and control pollution of the marine environment from dumping, and to take all measures to ensure that dumping is not carried out without the permission of competent authorities.¹⁵ The strict compliance and monitoring of the above-mentioned administrative responsibilities has wide ranging implications, not only for protecting marine habitats, but also in ensuring conservation of various marine species, including turtles.

3.1.1. The International Convention for the Pollution of the Sea by Oil (OILPOL) OILPOL, concluded at London in 1954, was the first comprehensive international regulation for preventing oil pollution from tankers operating at sea. Though the Convention now stands replaced by MARPOL 1973/78 (referred to below), the techniques enunciated by it to control operational discharges are worth noting. The OILPOL defined prohibited areas and excluded coastal zones from oil discharges; it sought to limit the rate of discharge, and helped set up construction and equipment standards for reducing the volume of waste oil, and called on governments to provide discharge facilities at ports.

¹³ Concluded at Geneva, 29 April 1958, entered into force 30 September 1962, 450 UNTS 82, 13 UST 2312 TIAS no. 5200.

¹⁴ 1974 I.C.J 3.

¹⁵ See Article 210 of the UNCLOS III and the Preamble of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Washington, 1972.

However, the fact that all the flag States were not Parties to the Convention, and their insufficient interest, coupled with practical problems of collecting evidence meant that the Convention was not particularly successful. Despite its potential, in India OILPOL was never adequately implemented to have had any clear relevance to marine turtle habitats.

3.1.2. *The International Convention for Prevention of Pollution from Ships (MARPOL)* MARPOL, first adopted in 1973, was substantially revised in 1978. The approach of this Convention was broadly similar to that of OILPOL in as much as it relied mainly on technical measures for preventing pollution. However, it is significant to note that unlike OILPOL this Convention was not confined to dealing with oil pollution, but also regulated other types of ship-based pollution, including noxious liquids, garbage, etc. The discharge of oil in small quantities is permitted only if it is en route, fifty miles from land and not in special areas.¹⁶ The special areas that are listed are all enclosed and semi-enclosed seas. Further, as per the Convention each flag State has two main responsibilities: (a) the State must inspect vessels at periodic intervals;¹⁷ and (b) the State must issue an International Oil Pollution Prevention Certificate.¹⁸ Besides, ships required to hold a certificate are subject to additional inspections by any Party in whose ports they are present. The above-said scheme of certification, inspection and reporting involves active cooperation of coastal States, port States and flag States. Notwithstanding these provisions and schemes, illegal discharges in the sea can be controlled only by a very high level of detection, aided by constant surveillance and monitoring of vessels at sea. In the case of India, MARPOL has been viewed as one of the most important conventions to which ships, especially the commercial ones, should be subject to periodic checking. However, some officials, on condition of anonymity, do admit that the nodal agency — the Coast Guard¹⁹ — has not been able to implement this Convention. This is especially because in the order of priority, defense is ranked much higher than the conservation of marine ecosystems, and constant monitoring in the absence of requisite infrastructure, especially for a developing country like India, is a very expensive affair. Moreover, commercial vessels which are primarily profit-driven, often show laxity in conforming to international obligations wherever they can. Further, there is inadequate training of the members of enforcement agencies on the implication of pollution on marine biodiversity. Although Coast Guard officers are generally informed during their training, the knowledge base is far from satisfactory.²⁰

¹⁶ Annex I Regulations 8–10 of the Convention.

¹⁷ Although it would be ideal that all vessels are checked, in India a random sampling of vessels is carried out (as per personal communication with the Coast Guard Organisation in New Delhi).

¹⁸ As per Annex I, Regulations 4 and 5 of the Convention.

¹⁹ See *infra* Sections 4.2.1.2 and 4.3.4 for discussions on the Coast Guard Act.

²⁰ This is as per personal interviews conducted with some captains of commercial ships based in Hong Kong, on conditions of anonymity.

3.1.3. *The United Nations Convention on the Law of Sea (UNCLOS-III)* UNCLOS-III, concluded in December 1982,²¹ provides comprehensive legal provisions for protection and preservation of the marine environment.²² While laying down general obligations of all the contracting Parties to protect and preserve the marine environment,²³ the Convention elaborates the measures to prevent, reduce and control pollution. Detailed provisions for preventing pollution by dumping, pollution from vessels, and pollution from seabed activities subject to national jurisdiction, in addition measures addressing pollution from land based sources have also been provided.²⁴

The UNCLOS-III also formulated for the first time the concept of Exclusive Economic Zone (EEZ). In the EEZ each coastal State has sovereign rights for the purposes of exploring and exploiting, conserving and managing living and non-living natural resources.²⁵ The numerous provisions mentioned above arm the contracting State to take measures to prevent marine pollution and ensure greater protection to marine species. In the case of India, UNCLOS has been reflected in the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976 (MZA),²⁶ where the concept of EEZ and other notions have been employed. The Act also focuses on protecting India's marine environment.

3.2. *International law and the conservation of marine resources*

The Declaration of the United Nations Conference on the Human Environment adopted at Stockholm, 1972, lays down international obligations for the conservation of natural resources, for the benefit of present and future generations, through careful planning and management.²⁷ The Declaration makes clear that States have the sovereign right to exploit their own resources, pursuant to their own environmental policies and subject to the condition that activities within their jurisdiction do not cause damage to the environments of other States.²⁸ The earlier international conventions, such as the United Nations Conference on Environment and Development (UNCED), 1992, and the provisions there-under, sought to regulate the use and exploitation of various mineral (non-living) resources in the sea. The perception that living species require conservation under a well-defined and comprehensive legal regime has been a relatively recent development. The conventions that have aimed at conserving marine living resources have broadly adopted two strategies: one relating to the protection of species and the second concerning habitats or ecosystems.

²¹ India is a Party to the Convention, which came into force in 1994.

²² Part XII of the Convention.

²³ See Articles 192–196 of the Convention.

²⁴ Articles 207–211 of the UNCLOS III.

²⁵ Article 56 of the Convention.

²⁶ See *infra* Section 4.2.1.1 for a discussion on the Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act.

²⁷ Note in this regard Principles 1 and 2 of the Declaration.

²⁸ Principle 21 of the Declaration.

3.3. *International laws on the protection of species*

The various international conventions aiming at the conservation of species have generally listed the species of concern in terms of degree of threat, or the degree of protection required. This is accompanied by measures, with each Party being required to enact the necessary legislation to support the system. The most well-known of all such conventions is the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which is discussed below, together with three other treaties to which India is Party.

3.3.1. *The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)* The CITES²⁹ explicitly recognises that “international cooperation is essential for the protection of certain species of wild fauna and flora against over-exploitation through international trade” and then categorises these species in terms of the extent of the threats they face, and consequently the varying degrees of regulation they require. Accordingly, the Fundamental Principles under Article II of the Convention list the species under three appendices as follows: Appendix I — species threatened with extinction and which are, or may be, affected by trade; Appendix II — species which may become threatened with extinction, if the international trade in them is not regulated; and Appendix III — species which any Party identifies as being subject to regulation within its jurisdiction for the purposes of preventing, or restricting, exploitation and as needing the cooperation of other Parties in the control of trade.

Further, Articles III, IV and V of the Convention deal with the modalities of regulating trade in specimens of species, included those listed in the above-said three appendices. The contracting parties are also required to take appropriate measures — including provisions for penalty and confiscation — to prohibit trade in specimens of restricted species and to enforce the provisions of the Convention.³⁰ It is also made clear that the Convention would in no way affect the right of Parties to adopt stricter domestic measures regarding the conditions (including complete prohibition) for trade, taking, possession or transport of specimens of species included in any of the Appendices of the Convention. The Wildlife Protection Act of India, 1972 (WLPA),³¹ is a good example of national legislation that has adopted stricter measures than CITES, and even prohibited certain “scheduled species” from being traded, or hunted although CITES measures are weaker.³² While hunting and other related offences entail up to six years of imprisonment along with a fine, any trade in “scheduled species,” that is those species included in Schedule I and in Part II of Schedule II, entail a stricter punishment of seven years of imprisonment as well as a fine. All five species of marine turtles documented from India are listed in Schedule I of the WLPA, as well as in Appendix I of CITES. It is also important to note that the offences in “scheduled

²⁹ Entered into force in India on 18 October 1976.

³⁰ See Article VIII of the Convention. Each Party is also required to designate management and scientific authorities for the purposes of the Convention (Article IX).

³¹ See *infra* Section 4.2.2.1 for a discussion on the Wildlife Protection Act of India.

³² See Section 9 and Chapter V-A of the WLPA. Here it may be noted that the WLPA is a domestic regulatory instrument and does not yet specifically legislate on CITES as an international convention dealing with regulating international trade.

species” are categorized as “non-bailable offences,” which means that the grant of bail to an accused is not a matter of right but is left to the discretion of the judge whereby s/he could impose conditions or restrictions for granting a bail to the accused. In short, trade in wild species such as marine turtles entails serious consequences; moreover, an amendment to the WLPA, including a stricter legal provision, came in 1986, clearly after the ratification of CITES. Further, the Foreign Trade Act, 1973³³ mandates a five-year period of Export Import (EXIM) Policy,³⁴ and the EXIM Policy of 1997–2002 prohibits all wildlife and wildlife products from being exported. All the species of marine turtles fall within the ambit of this Policy under the Foreign Trade Act, which further strengthens the legal regime to protect marine turtles.

3.3.2. *The Convention on the Conservation of Migratory Species of Wild Animals (CMS)* The CMS³⁵ requires parties to conserve migratory species, paying special attention to species, the conservation status of which is “unfavourable.”³⁶ Notably, the conservation status is defined as “the sum of influences acting on the migratory species that may affect its long-term distribution and abundance.” Appendix I to the Convention, in pursuance of its Article III, contains a list of endangered migratory species. It is pertinent to note that all the five species of sea turtles listed in Schedule I of the WLPA are also listed here. In addition, migratory species with an “unfavourable conservation status” are listed in Appendix II, and referred to under Article IV to the Convention, along with corresponding states’ obligations. Article V, which lists the modalities of international agreements to be developed under the convention, seeks to restore the migratory species concerned to a “favourable conservation status,” and *inter alia* provides that each agreement should cover the whole geographic range of the migratory species concerned and “should be open to accession by all Range States of that species, whether or not they are Parties to this Convention” (emphasis added). Further, the Convention calls upon the States to establish a “Scientific Council”³⁷ to provide advice on scientific matters.³⁸ The Convention makes it clear that it shall in no way affect the right of the Parties to adopt stricter domestic measures concerning the conservation of migratory species listed in the two Appendices and to adopt domestic measures with respect to species not listed in either of these Appendices.

India, as one of the few Parties to the CMS in Asia, is actively involved in regional efforts to conserve the highly endangered Siberian crane (*Grus leucogeranus*) as part of the CMS Memorandum of Understanding concerning Conservation Measures for the Siberian Crane. However, there are no specific laws in India on migratory species. At best, the commonly identified migratory species are listed in the Schedules appended to the WLPA. As regards certain migratory species such as the Siberian Crane, its regular habitat has been accorded the highest legal status under the WLPA as a National Park. One case in point is the Keoladev Ghana National Park, which is a periodic destination of the bird. Despite the

³³ See *infra* Section 4.3.1 for more information on the Foreign Trade Act.

³⁴ See *infra* Section 4.3.1 for more information on the EXIM Policy.

³⁵ Came into force in India on 1 November 1983.

³⁶ In this context see Article I.

³⁷ To the authors’ knowledge, no such scientific council has been established in India.

³⁸ Article VIII of the Convention.

above measure, the biggest challenge to migratory species is providing adequate protection over the migratory route. While destinations' legal status might be enhanced in certain cases, such as Keoladev National Park in Rajasthan and Chilka in Orissa, there is a lack of adequate planning and management of conservation activities for the routes that such migratory species follow. This is also true for marine turtles. Only recently an eminent scientist, Jack Frazier of the U.S.A., was the first to put satellite transmitters on olive Ridleys to trace their migratory pattern in the Indian Ocean. Clearly much needs to be done in terms of scientific inputs (which obviously means higher investments) to understand the routes of these magnificent endangered species in order to take corrective management measures.

3.3.3. The United Nations Convention on the Law of the Sea (UNCLOS III) The UNCLOS III vested³⁹ sovereign rights in coastal States for “exploring and exploiting, conserving and managing the natural resources, whether living or non-living” in the Exclusive Economic Zone (EEZ).⁴⁰ The Convention mandates that each coastal State shall determine the allowable catch of the living resources in its EEZ, taking into account the best available scientific evidence, and with a view to ensure that such living resources are not endangered by over exploitation. Besides, in taking such measures, coastal States shall take into consideration the effects on species associated with, or dependent upon, harvested species, with a view to maintaining or restoring populations of such associated or dependent species above levels at which their reproduction may become seriously threatened.⁴¹

It is important to note here that the UNCLOS III also lists five categories of species, with the objective of ensuring conservation and optimum utilization of such species, both within and beyond the EEZ. These include the highly migratory species listed in Annex I of the Convention: marine mammals and numerous species of fishes (turtles are not mentioned in Annex I). The Convention calls for active cooperation and participation of all States in prohibiting, limiting or regulating the exploitation of these species.⁴²

The UNCLOS, which mandates the EEZ, has been closely followed by India's Maritime Zone Act, and the objective is coterminous with the Ocean Policy of India.⁴³ The Ocean Policy, as detailed later, is biased towards “marine development” and is a use-oriented policy rather than conservation related. The mandate under UNCLOS III of sovereign rights of the States over marine resources has to be complemented with a strong base in sustainability of such resources. The MZA tries to fulfill this need to some extent.⁴⁴ This will be discussed in the section on National Law and Policy on marine conservation.

³⁹ The term “vest” is generally used to connote ownership, control and management; it can mean any or all of these concepts.

⁴⁰ See Article 56 of the Convention. Some other provisions of the UNCLOS III relevant to the prevention of marine pollution have been discussed above.

⁴¹ See Article 61 of the Convention for other measures relating to conservation of living resources.

⁴² In this context see Articles 64–67 of the UNCLOS III.

⁴³ See *infra* Section 4.1.2 for a discussion on the Ocean Policy Statement.

⁴⁴ See *infra* Section 4.2.1.1 for a discussion on the MZA.

3.4. *International laws on the protection of marine habitat*

Apart from the various conventions with a focus on protection of species, there have been attempts internationally emphasizing on protection of the habitats within which the various species exist. This assumes significance as the destruction of habitat has been identified as the single most important reason for extinction of species. In this context some of the major international conventions of which India is a party are discussed below.

3.4.1. Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar) The provisions of the Convention on Wetlands of International Importance Especially as Waterfowl Habitat, Ramsar 1971, as amended by the protocol in 1982,⁴⁵ are also very relevant to the present study. While asserting the need to combine farsighted national policies and coordinated international action, the Convention seeks to preserve the fundamental ecological functions of wetlands as regulators of water regimes and as habitats supporting a characteristic flora and fauna. Each Contracting Party is required to designate suitable wetlands within its territory for inclusion in a list of wetlands of international importance (the List), to be maintained by the Bureau.⁴⁶ Besides, information regarding pollution and other human interference within designated wetlands has to be provided to the Bureau. The Convention by its Article 4 mandates the creation of nature reserves for wetlands, whether such wetlands are included in the List or not. Since the legal regime concerning these "nature reserves" has not been elaborated, it can be inferred that this would be left to the discretion of the various contracting states. Further, the Parties are also required to formulate and implement domestic law to promote conservation of wetlands in consonance with their obligations under this convention. The 1971 Convention was amended by the Protocol, concluded in December 1982, whereby amendment procedures to amend the text of the Convention were introduced, emphasizing the need to increase the number of Contracting Parties. It may be noted that a State which becomes a Party to the Protocol without being a Party to the Convention, shall be considered as a Party to the Convention as amended by the Protocol, as of the date of entry into force of the Protocol for such State.⁴⁷ It is pertinent to mention that although there is a policy emphasis (for example, the designation of Ramsar Sites in India), there is no exclusive legislation in India for wetland protection.⁴⁸ However, various laws have had a direct or indirect bearing on wetland protection or conservation. What is important to bear in mind is that laws in India generally have addressed different resources which occur in a wetland, such as water, fish, birds and the land itself. The laws are yet to conceive wetlands as a habitat. The exception being wetlands that are designated as Protected Areas under the Wild Life Protection Act, 1972, which may be used in protecting wetland

⁴⁵ The Convention entered into force in India on 1 February 1982.

⁴⁶ Articles 2–8 contain the obligations of a contracting party to the Convention.

⁴⁷ See Article 5 (3)(4) of the Protocol.

⁴⁸ Some authors have been advocating a separate instrument for wetlands. See in this context: C. Singh, *LAW AND POLICY FOR WETLAND MANAGEMENT: A HAND BOOK FOR WETLAND MANAGEMENT IN INDIA* (1995).

as a habitat.⁴⁹ Further, some degree of protection to coastal wetlands, which are ecologically sensitive, may also be given under the Coastal Regulation Zone Notification, 1991, issued under the Environment Protection Act, 1986, where certain activities are prohibited; however, these cover only Coastal Regulation Zone I.⁵⁰ In India only six places have been designated as Ramsar sites. The reasons for such few designated sites range from political, and economic to social, but are outside the scope of the present study. The nesting sites of the marine turtles could certainly be designated as Ramsar sites as part of an important wetland ecosystem under the Ramsar Convention.

3.4.2. Convention for the Protection of the World Cultural and Natural Heritage The Heritage Convention concluded at the general conference of the UNESCO in 1972,⁵¹ was made in recognition of the fact that “natural heritage is increasingly threatened with destruction not only by the traditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction.” The geological and physiographical formations, and precisely delineated areas, which constitute the habitat of threatened species of animals and plants of outstanding, universal value from the point of view of science and conservation, are natural heritage for the purposes of the Convention.⁵² Each State party to the Convention is required to adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community, and to integrate the protection of that heritage into comprehensive planning programmes. Besides, Parties are also mandated to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, preservation and rehabilitation of such heritage.⁵³ The Convention also establishes the “World Heritage Committee” which is an Inter-Governmental Committee for the protection of natural heritage.⁵⁴

India has established such World Heritage sites, all of which are based on cultural values of the past. The mass nesting, or “*Arribada*”, sites of olive Ridley sea turtles (*Lepidochelys olivacea*) in Orissa, are clearly of global importance, and they could be declared as **natural heritage** sites by using this Convention.

3.4.3. Convention on Biological Diversity (CBD) The Convention on Biological Diversity (CBD), concluded in 1992,⁵⁵ has been instrumental in putting the concerns for the conservation of biodiversity on the international agenda. The comprehensive approach of the Convention to the issue of biodiversity is reflected by the objectives that it seeks to achieve. The Convention lays down specifically “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the ben-

⁴⁹ See *infra* Section 4.2.2.1 for a discussion on the Wildlife Protection Act.

⁵⁰ See *infra* Sections 4.2.1.4 and 4.2.1.3 for discussions on the Coastal Regulation Zone Notification, 1991 and the Environment Protection Act, 1986, respectively.

⁵¹ The Convention came into force in India on 14 February 1978.

⁵² Article 2 of the Convention.

⁵³ See Article 5 for some other measures that States are required to develop for the purposes of this Convention.

⁵⁴ Article 8 of the Convention.

⁵⁵ The Convention was signed by India on 5 June 1993; it has been signed so far by over 120 countries.

efits” arising there-from as its objectives (Article 1). Significantly, the preamble to the Convention identifies in-situ conservation of ecosystem and natural habitats as the fundamental requirement for the conservation of biological diversity. The legal aspects of the strategy for in-situ conservation, as outlined by the Convention, include developing legislation/regulatory provisions for the protection of threatened species and populations. The Convention also requires the protection of ecosystems and natural habitats as well as the regulation of biological resources within or outside protected areas to ensure both conservation and sustainable use.⁵⁶ Further, guidelines for both ex-situ conservation and in-situ conservation include recovery and rehabilitation of threatened species, allocation of financial resources for such purposes, regulation and development of habitats, research, and restoration of degraded ecosystems.⁵⁷ Significantly, the Convention stipulates that contracting parties shall implement the convention with respect to marine environments consistent with the rights and obligations of States under the Law of the Sea, UNCLOS.⁵⁸ Other obligations under the Convention deal with international cooperation, identification and monitoring of threatened species, public education, increasing awareness, research and training of personnel, minimizing adverse impacts, access and judicious use of genetic resources, etc.

India drafted the Biodiversity Bill⁵⁹ first in 1997 and then revised it in 2000 along the lines of CBD. The prime objectives of the conservation of biodiversity, sustainable use of its components and equitable benefit sharing are the bases of the new legislation. However, the Bill has run into controversy due to certain overriding provisions and has still not been passed by the Indian Legislature.

3.4.4. Summary of international laws on the protection of marine habitat The above review of International Conventions and agreements makes clear that international norms and standards relating to the conservation of the marine environment are well developed. But what is important to note, as stated earlier, is that international law becomes effective only when there is national legislation on the subject. Therefore it is pertinent to assess how the international conventions are reflected in the Indian legal regime. Although this aspect has been dealt with briefly, let us now see how the national law and policy regime that affect marine environment has developed.

4. National legal and policy framework on the marine environment

The existing legal regime on marine environment in India may be broadly seen under three categories: laws relating to conservation of marine areas, laws relating to use of marine areas and the legal classification of various zones of the marine environment. While the first two are functional classifications, the last is a jurisdictional classification.

⁵⁶ See Article 8 of the Convention.

⁵⁷ Articles 8 and 9 of the CBD.

⁵⁸ See Article 22 (2) of the Convention.

⁵⁹ The National Biodiversity Bill is discussed in some detail in *infra* Section 4.2.1.6.

4.1. *Overarching national regimes*

Before getting into the details of the legislation that impacts marine systems specifically, it would be instructive to examine the overarching national regime, i.e., the constitutional mandate and the Ocean Policy Statement.

4.1.1. *Constitutional mandate* Marine resources have been of prime concern under the Constitution of India. The land, minerals and other things of value under-lying the ocean, within the various zones, such as the territorial waters, the continental shelf, or the exclusive economic zone, are under the sovereignty/jurisdiction of the Union of India.⁶⁰ There has been a progression in the type of resources that are included in these territorial zones, resulting in comprehensive legislation in 1976.⁶¹ The constitutional mandate has expanded the territorial zones to include not only the territorial waters, the continental shelf, and the exclusive economic zones (viz. non-living resources), but also, all marine living resources of the exclusive economic zone of India as specified by the Maritime Zones Act, 1976. In addition, Article 48-A of the Constitution⁶² mandates the State to protect, safeguard and improve the marine environment, while Article 51-A(g)⁶³ establishes the fundamental duty of all citizens to protect and improve the natural environment.⁶⁴ Although the above two Articles relate to the Directive Principles of State Policy, which means that they are not enforceable in a court of law, it has been a practice to invoke provisions of the Directive Principles of State Policy to strengthen legal arguments in the courts for protection of the environment. The courts have also been liberal in interpreting the above Articles in protecting India's environment.⁶⁵ This clearly arms the state to take all the necessary legal steps to not only protect, but also to improve the marine environment, including those aspects that enhance marine turtle conservation.

4.1.2. *Ocean Policy Statement* Further, the Department of Ocean Development has issued an Ocean Policy Statement after the U.N. Conference on the Law of the Sea. The Statement recognises the economic jurisdiction of coastal states, providing that the exclusive right to utilise living and non-living resources within the maritime zones rests with the nation. It also recognises that the complexity and the uncertainty of the ocean environment require a coordinated, centralised response that needs to be based on adequate knowledge of marine space, including the sea bed, water and air columns, in order to control, manage and utilise the rich and varied natural resources available in the sea. The main thrust, as per the policy, should go beyond optimal utilisation of living marine resources as well as

⁶⁰ Article 297 of the Constitution.

⁶¹ Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act, 1976.

⁶² Art. 48A: "The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country."

⁶³ Art. 51 A(g): "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures."

⁶⁴ Although it is not specifically mentioned, natural environment should include marine environment.

⁶⁵ Almost every writ petition on protection of environment that is of public interest, invokes Articles 48-A and 51-A(g) of the Constitution of India.

non-living resources, and should include *inter alia* the harnessing of renewable sources of ocean energy. While the thrust of the policy statement is on “marine development,” linked with scientific and technological inputs, it also mandates the conservation of marine environments and their resources through an integrated legal framework, with measures for enforcement. Several laws have been enacted which cover the various aspects of preservation and use of maritime zones.

4.2. National laws relating to the conservation of marine areas

In this category, the approach to conservation of marine areas could be under two broad heads, i.e., the laws that protect marine habitat and the laws that protect species (turtles in this case). With the understanding that these two approaches are not mutually exclusive, let us examine the most significant laws that protect the coastal environment.

4.2.1. Laws that protect marine habitat

4.2.1.1. The Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act (MZA) The (MZA), 1976, is the most important legislation that governs the various maritime zones. Apart from the physical jurisdiction of the above-mentioned maritime zones, it is important to note that the Union of India has exclusive jurisdiction to preserve and protect the marine environment, as well as to prevent and control marine pollution.⁶⁶ The Indian government has control over the territorial waters of India and over the “seabed and subsoil underlying and the air space over such waters.”⁶⁷ The Central Government further has the power to impose any restriction/enactment as regards the contiguous zones, and it shall have the same effect as if it were a part of the Indian territory itself.⁶⁸ The Indian Union also has full and exclusive sovereign rights over “exploration, exploitation, conservation and management of all resources” within the continental shelf.⁶⁹ The “exclusive rights and jurisdiction for” the construction, maintenance, etc. of “devices” for “exploration/exploitation of the resources of the continental shelf/for the convenience of shipping/any other purpose” also vests⁷⁰ with the Union. Interestingly, any area of the continental shelf may be declared as a “designated area,” where the Central Government has the power to make any provisions that it considers necessary with an aim to “the protection of marine environment of such designated area.”⁷¹ Section 7 of the MZA enables the Union to have exclusive jurisdiction, including the preservation and protection of the marine environment in the exclusive economic zone (EEZ) of India. Further, any area of the EEZ may be declared as a designated area. Another interesting feature of this

⁶⁶ Section 6(3)(d) of the Maritime Zones Act, 1976.

⁶⁷ Section 6(1) Maritime Zones Act, 1976.

⁶⁸ Section 5(1) states that the contiguous zone of India extends to a distance of 12 nautical miles from the “baseline.”

⁶⁹ See Sections 6.2, 6.3(a) and 6.3(b) of Maritime Zones Act, 1976.

⁷⁰ See *supra* note 39.

⁷¹ Section 6(5) of the Maritime Zones Act, 1976.

Act is the establishment of provisions for “historic waters.” The term “historic waters” usually refers to waters which are internal waters, but which would be under the jurisdiction of the respective state government were it not for the existence of an historic title.⁷² The MZA provides that sovereignty of the Central Government extends to the historic waters. The Central Government has been vested with adequate powers to make rules for implementing this Act, and such rules may provide for “preservation and protection of the marine environment” and “prevention and control of marine pollution.”⁷³ However, no rules have been framed exclusively for this purpose.

4.2.1.2. The Coast Guard Act (CGA) The Coast Guard Organisation, as stipulated under the Coastguard Act, 1978, is the nodal agency which looks after the enforcement of several of the above legislative measures. The Act defines “maritime zones of India”⁷⁴ as per the MZA, where it provides that it is the duty of the Coast Guard to protect “maritime and other national interests of India in the maritime zones of India.” To comply with these regulations the Coast Guard may employ any measures it considers fit, and this includes measures necessary for preserving and protecting the “marine environment” and the prevention of marine pollution.⁷⁵

4.2.1.3. Environment Protection Act (EPA) The Environment Protection Act, 1986, provides significant measures for both preservation of the environment and prevention of pollution. “Environment” as defined in the Act includes “water” and the “inter-relationship” between water and “other living creatures, plants, micro-organisms and property.”⁷⁶ Section 3 of the Act is an over-riding provision which mandates the Central Government to take all necessary measures for “protection and improving the quality of the environment” and to prevent and control pollution. The Central Government is empowered to lay down the standards for the quality of environment in its various aspects.⁷⁷ The Central Government also has the power to set limits for emissions and discharge of environmental pollutants from various sources. This provision is of immense significance as it vests the power in Central Government, irrespective of the “source” of the pollutants.⁷⁸ Section 25 of the above Act empowers the Central Government to make rules regarding the conservation and improvement of the natural environment. Although there are no direct rules made to prevent marine pollution and ensure marine conservation, several rules and notifications issued under this umbrella Act may be effectively used to prevent the destruction of marine habitat, and consequently the animals that live there. In this regard the Environment Impact Assessment Notification,⁷⁹ issued under the EPA in 1994, also may be effectively utilized to protect turtle habitats. Under the said notification certain classes of industries

⁷² 130 I.C. J. Rep. (1951).

⁷³ See Section 15(1) and (2) of the Maritime Zones Act, 1976.

⁷⁴ Section 2(y) of the Coast Guard Act, 1978.

⁷⁵ Sections 14(1) and (2)(c) of the Coast Guard Act, 1978.

⁷⁶ Section 2(a) of the Environment Protection Act.

⁷⁷ Section 3(2)(iii) of the Environment Protection Act.

⁷⁸ Section 3(2)(iv) of the Environment Protection Act.

⁷⁹ S.O.64(E) dated 27 January 1994.

including ports, jetties, etc., require mandatory environmental clearance from the Ministry of Environment and Forest (MoEF). However, a recent move by the Government of India to transfer minor port environmental clearance from the MoEF to the Surface Transport Ministry is a retrograde step in the light of turtle conservation concerns.

4.2.1.4. Coastal Regulation Zone Notification The Coastal Regulation Zone Notification, issued in 1991, along with its later amendments, prohibits as well as regulates the setting up of new industries, including the expansion of existing industries in ecologically sensitive areas. Three categories of Coastal Regulation Zone (CRZ) are established. Areas classified as CRZ I are considered to be ecologically sensitive and important, such as marine parks and areas closed to breeding and spawning grounds of fish and other marine life; hence, there is complete prohibition of construction activities in these areas.⁸⁰ Section 7(2) further prohibits the construction of beach resorts and hotels in “ecologically sensitive areas such as breeding and spawning grounds of fish.” The above notification arms the Central Government with adequate powers to regulate construction activities in and around the Coastal Zone and has unambiguous provisions to protect ecologically sensitive areas (read nesting grounds of turtles in this case) from the threats of industrial development that threaten marine habitats. In fact, the Union Ocean Department has framed the draft Notification, which seeks to extend the Coastal Regulation Zone to the seaward limit of territorial waters as defined under the Maritime Zone Act of 1976.

4.2.1.5. Ocean Regulation Zone (ORZ) A new concept emerged in early 1997, which went beyond the coastal stretches by way of the proposed Ocean Regulation Zone Notification (ORZ). The Central Government proposed to regulate, as well as to prohibit, certain activities and processes which could be detrimental to the environment in the oceanic part of the coastal zone. Similar to the CRZ classification, the ocean area is proposed to be classified into three zones: Ocean Regulation Zones I, II and III. The ORZ I category includes critical marine habitat areas. ORZ II includes developed areas, and ORZ III includes the undeveloped and underdeveloped areas within the maritime zones. The activities that are proposed to be prohibited in the ORZ I include, *inter alia* construction of “civil and other man made structures,” like break waters for harbours, “floating industries” and structures; laying pipelines for transport of oil; and exploration and establishment of production sites of oil and natural gas. The discharge of untreated domestic and industrial aqua-cultural wastes, as well as nuclear and thermal power plants, are also prohibited in ORZ I. Under the proposed notification, the coastal states and the Union Territory Administration are required to prepare integrated Coastal and Marine Areas Management Plan. Although this notification has not been adopted, a recent Supreme Court case⁸¹ has mandated all coastal states of India to prepare Coastal Zone Management Plans in accordance with the Coastal Regulation Zone Notification, which has been discussed earlier.

⁸⁰ See Section 2(xi) and Annexure 1 to the CRZ Notification 1991.

⁸¹ Indian Council for Enviro Legal Action V. UOI 1996(5) SCC 281.

4.2.1.6. *National Biodiversity Bill 2000* The National Biodiversity Bill, 2000, in its present form, seeks to “provide for conservation of biological diversity, sustainable use of its components and equitable sharing of the benefits” arising there-from. The Bill creates a three-tier structure of authorities to manage the biodiversity of the country. This includes the National Biodiversity Authority (NBA), the State Biodiversity Boards at the state level, and the Biodiversity Management Committees at the local level.⁸² It is pertinent to mention that biological diversity includes within its definition marine biodiversity. The NBA, to be created under the proposed bill, would also include a member representing the Department of Ocean Development.⁸³ The Authority may advise a state government to specify areas of biodiversity importance as “heritage sites” and also measures for the management of such heritage sites.⁸⁴ This provision empowers the Authority to specify critical habitats as heritage sites, for example nesting sites of turtles.

4.2.2. *Laws that protect marine species, especially turtles*

4.2.2.1. *The Wildlife Protection Act (WLPA)* The Wildlife Protection Act, 1972 (WLPA), is perhaps the most powerful legislation that accords the highest protection to both the species as well as to habitats of turtles in India.⁸⁵ The definition of “animal” under the WLPA brings “reptiles and their eggs” within the ambit of this Act.⁸⁶ All the species of marine turtles⁸⁷ including “olive back logger head turtle” (*Lepidochelys olivacea*) have been included in Schedule I of the WLPA, which means that they are accorded the highest degree of protection. Hunting,⁸⁸ which includes damaging or destroying the eggs and nests, of the reptiles is strictly prohibited and entails maximum penalties under the Act. The State, as well as the Central Government,⁸⁹ also has the power to declare areas, including any part of the territorial waters, which it considers to be of “zoological significance” for “protecting/propagating/developing wildlife/its environment” as a “sanctuary.”⁹⁰ However, this provision establishes the limits of the area of territorial waters to be included in

⁸² A major portion of the Act, i.e., from Chapter II to Chapter X, has been devoted to the creation of these authorities for management of biodiversity at the national, state and local levels.

⁸³ Section 8 (4)(c)(iii) of the National Biodiversity Bill 2000.

⁸⁴ Section 18(3)(b) of the National Biodiversity Bill.

⁸⁵ All State laws on wildlife have now been repealed and the WLPA, except in the State of Jammu and Kashmir, is applicable nationally.

⁸⁶ Section 2(1) of the WLPA.

⁸⁷ The Wildlife Protection Act lists eight different species of turtles and accords them the highest protection under Part II of Schedule I under the Act. These include: “Audithia Turtle (*Pelochelys bibroni*);” “Ganges Soft-shelled Turtle (*Trionyx gangeticus*);” “Green Sea Turtle (*Chelonia mydas*);” “Hawksbill Turtle (*Eretmochelys imbricata*);” “Indian Tent Turtle (*Kachuga tecta tecta*);” “Leathery Turtle (*Dermochelys coriacea*);” “Logger Head Turtle (*Caretta caretta*);” “Olive Back Logger Head Turtle (*Lepidochelys olivacea*);” and “Peacock-marked Soft-shelled Turtle (*Trionyx hurum*).”

⁸⁸ As per Section 9, read with Section 2(16)(c) of the WLPA.

⁸⁹ Ordinarily it is only the state governments that issue such notification. So far no notification declaring a sanctuary has been issued by the Central Government for a sanctuary or national park.

⁹⁰ See Section 18 and Section 26A(b) of WLPA.

the sanctuary, “after taking adequate measures to protect the occupational interests of the local fishermen.” Similarly, the State, as well as the Central Government, has the power to declare an area as a “national park” (whether or not it is in a sanctuary) and provisions of Section 26A will apply, where “any part of the territorial waters is proposed to be included in such National Park.”⁹¹

The various species of turtles, including the olive Ridley, are protected from trade as “Scheduled animals”⁹² under Chapter V-A of the WLPA, where the trade in any such scheduled animal is prohibited, and any violation of such provisions (Section 49-A and 49-B of WLPA) entails penal consequences. Section 44(v) of the WLPA further prohibits carrying on a trade as a dealer in “meat.” It is pertinent to note that “meat” includes eggs and shell, and consequently the eggs and shells of the turtle species that come within this ambit.⁹³

4.2.2.2. National Biodiversity Bill, 2000 Section 38 of the proposed Biodiversity Bill also empowers the Central Government to list any species on the verge of extinction, and to take the necessary actions to rehabilitate and preserve the species. Although marine turtles are listed under the schedules of the WLPA, this provision under the Biodiversity Bill may further strengthen the conservation and management of turtles in India.

4.3. Laws relating to use of marine areas

The laws relating to the conservation of marine habitat as well as marine species that have been enumerated above have to be seen in comparison with the laws that specifically regulate the uses of the marine areas. This is imperative, as both use and preservation need to be balanced for any sustainable management of marine species, including turtles. Historically the laws relating to use of marine areas have had precedence over laws that protect marine habitat, which is a more recent phenomenon. The regulation of use of marine areas and marine products may be divided into two broad categories: one that governs the trade in marine products, including their export, and the other that facilitates such trade, which involves the movements of vessels and ships. The former has direct bearing on marine resource conservation, while the latter has implications on habitats through potential pollution by discharge or accidental release of oil, etc.

4.3.1. Marine Products Export Development Authority Act (MPEDA) The Marine Products Export Development Authority Act, 1972 (MPEDA), is aimed at streamlining the marine products industry through the establishment of a central agency for regulating, organising and developing the marine industry on economic lines. The authority is vested with adequate powers to undertake measures for the development of the marine products industry, such as promoting exports, registering fishing vessels, developing processing

⁹¹ See Section 35 of WLPA.

⁹² Scheduled animals are those which are from Part I of Schedule I and Part II of Schedule II under the Schedule of species that are protected in the WLPA.

⁹³ Section 2(20) of WLPA.

plants, etc. It is pertinent to mention that the Union Government, vested with the control of the marine product industry, promotes this industry in the name of “public interest.” However, the provisions of the MPEDA need not come in the way of turtle conservation and management, as under the Foreign Trade Act the Export Import policy clearly prohibits the export of all forms of wild animals, including their parts and products. The definition of “wild animal” is as per the WLPA, and refers to animals found wild in nature or animals listed in Schedules I, II, III, IV and V wherever found.⁹⁴ Thus, the prohibited items under the “negative list of exports” of the EXIM Policy clearly ban the export of turtles or their parts and products. This is not only in compliance with the terms of CITES, but is stricter than that required by the Convention.

4.3.2. Indian Fisheries Act (IFA) The Indian Fisheries Act, 1897, specifically prohibits the use of dynamite or poisons in all waters, including inland waters and coasts.⁹⁵ It is pertinent to mention that “water” includes the sea within a distance of one marine league of the seacoast⁹⁶ (i.e., 3 nautical miles); therefore, the nesting grounds of marine turtles may come within the ambit of the Act. Although the Fisheries Act includes precautionary measures relating to fishing, its mandate is to promote fisheries in a sustainable manner. This has implications on turtle conservation as violations of this Act, notably within 3 nautical miles of the coast, could have a direct bearing on the mortality of turtles.

4.3.3. Indian Ports Act (IPA) Interestingly, the definition of “port” under the Indian Ports Act, 1908, includes any part of a river or channel.⁹⁷ Hence, the government may extend the reach of this Act to embrace any port or any part of any navigable river or channel.⁹⁸ An essential provision includes the rule making power under this Act. Section 6 provides that the government may enact rules to regulate a variety of activities carried out in ports; these include, among other things, the manner in which oil or water mixed with oil shall be discharged in any port for disposal;⁹⁹ the use of piers, jetties, landing places, etc.;¹⁰⁰ vessels whilst taking in or discharging ballast or cargo;¹⁰¹ and the use of fires and lights within any port. Section 21 specifically prohibits the improper discharge of ballast and/or rubbish into the sea; and if such ballast or rubbish is likely to form a shoal, it is punishable under the Act. If implemented in this particular situation, this Act would be useful to check the discharge of rubbish and ballast into waters nearby nesting grounds or foraging areas of turtles. Similarly, rules may be prescribed to regulate light as well as fire, for example, to prevent light pollution and disorientation to hatchlings when they come out of their nests and rush to the sea. From the above it is clear that there are ample provisions

⁹⁴ See EXIM Policy 1st April 1997 – 31st March 2002 issued by Ministry of Commerce, Government of India, Chapter 16 Negative list of exports, item 1.

⁹⁵ Section 4 of the Indian Fisheries Act, 1897.

⁹⁶ Section 4(2) of the IFA, 1897.

⁹⁷ Section 3(4) of the Indian Ports Act, 1908.

⁹⁸ Section 4(1)(a) of the IPA, 1908.

⁹⁹ Section 6(1)(ee) of the IPA, 1908.

¹⁰⁰ Section 6(1)(jj) of the IPA, 1908.

¹⁰¹ Section 6(1)(e) of the IPA, 1908.

under this Act that may be used to ensure sustainable management of turtles, even while meeting the requirements of trade through movement of vessels. The hazards of discharge of ballast, rubbish or oil, or the use of fire and lights in ports that may harm turtles or their habitats can all be regulated under the Act for better marine conservation.

4.3.4. Coast Guard Act (CGA) The coast guard organisation, setup under the Coast Guard Act of 1978, was to ensure the safety of navigation in our waters, protection of our offshore installations and fishing interests, providing for salvage and pollution control measures and enforcement of national laws in our maritime zones. There are general provisions relating to the duty of the Coast Guard to protect, by such measures as it considers fit, the maritime and other national interests in the maritime zones of India. Specifically, the functions include, among other things, taking measures to ensure the safety and protection of artificial islands, offshore terminals and other installations in the maritime zones, “taking such measures as are necessary to preserve and protect the maritime environment and to prevent and control marine pollution.” It further provides that measures could be taken for the safety of life and property at sea and for enforcing the provisions of any enactment in force in the maritime zones of India.¹⁰² Thus, the coast guard is vested with adequate powers to ensure the safety of marine habitats, including nesting and foraging grounds of turtles that may be affected due to the movement or actions of vessels and ships.

4.3.5. Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981 The Maritime Zones of India (Regulation of Fishing by Foreign Vessels) Act, 1981, was enacted to further the objectives of the Territorial Waters, Continental Shelf, Exclusive Economic Zones and Other Maritime Zones Act, 1976 (MZA). It was felt that separate legislation is required to deal in greater detail with regulation, exploration and exploitation of certain resources in our maritime zones; in particular, increases in poaching activities by foreign fishing vessels in our exclusive economic zone resulted in a need to prevent such illegal activities and to protect the local fisherman from hardships caused by poaching vessels. The primary objective of the Act is to “regulate fishing activities of foreign fishing vessels in the territorial waters of India and the exclusive economic zone of India.” Interestingly, “fish” as defined under the Act includes turtles,¹⁰³ and turtles are listed in Schedule I of the Wildlife Protection Act, 1972. Therefore, any fishing activity by a foreign vessel that affects turtles would be a violation of the Maritime Zones of India Act, 1981. Section 3 provides that no foreign vessels are allowed to fish in the maritime zones of India except with prior permission of the Central Government.¹⁰⁴ This Act has been established to enhance and supplement other laws which are presently in force. Hence, the provisions of this Act can be used to support and supplement other legislation, which aims at the protection and preservation of marine (or aquatic) life, such as the Environment Protection Act and the Wildlife Protection Act. Thus, any movement or activities by foreign vessels for the purposes of fishing that affect turtles or their habitats can be regulated by

¹⁰² See Section 14 of the CGA, 1978.

¹⁰³ Section 2(b) of the Maritime Zones of India Act, 1981.

¹⁰⁴ See Sections 4 and 5 of the Maritime Zones of India Act, 1981.

this Act. The Act provides for punishment by way of heavy fines and even the confiscation of foreign fishing vessels engaged in any violation of the Maritime Zones of India Act, 1981.

5. Concluding remarks

The numerous legal regimes, both national and international, with relevance to the protection of marine habitats in general, and marine turtles in particular, appear to be comprehensive in nature and scope. However, in practice they have thus far had minimal positive impact on the conservation of these reptiles and their habitats in India. On reviewing the above mentioned, numerous laws and how they relate to marine ecosystems, one may assume that India does not require further legislation. However, a more detailed analysis clearly demonstrates that the laws are not adequate, and moreover there is no coordinated effort in implementing the existent statutes for turtle conservation. At best there is recognition of the fact that marine turtles need protection (for example, the listing of all species in the Schedules of the WLPA). However, this legislative action was not backed by any specific programs at the national level; it was only recently that a small Government of India-UNDP Sea Turtle Project addressed the conservation issues of these marine reptiles at a national level. Unlike as with Project Tiger, Project Elephant and Project Rhino, marine turtles have still not evoked a strong national response.

Another clear inadequacy that emerges is the multiplicity of agencies that have been entrusted with marine conservation and the lack of clear delineation of both jurisdiction and authority at the Centre, as well as the State level. There are at least nine major federal agencies that have clear responsibilities in marine and coastal conservation: the Coast Guard, the Chief Wildlife Warden's Office (entrusted with protection and management of endangered species in each of India's states) under the Ministry of Environment and Forest, the Ministry of Transport, the Department of Ocean Development, the Marine Products Export Development Authority under the Ministry of Commerce, the Ministry of Petroleum and Natural Gas, the Ministry of Tourism, the Ministry of Defense and the Ministry of Shipping, but they have little, if any, coordination in ocean management. Perhaps, a multi-disciplinary Ocean Management Cell could be formed for better coordination.

Further, more technological and scientific inputs are required for understanding the science of turtle conservation, while taking into account the occupational and bona fide interests of local people. This is essential because any policy prescription for turtle conservation has to have a sound scientific basis. The Ocean Policy Statement could be developed into a comprehensive Ocean Policy, including an integrated plan of action, which would address the complexities of marine conservation, especially when involving endangered, highly migratory species such as marine turtles. The lack of scientific certainty in conserving these species is definitely a policy challenge.

Although there are several national laws that reflect, at least partly, India's international obligations, a coordinated system of how international instruments are being implemented is yet to emerge. There are some international instruments for which effective steps are being taken, (for example the CITES Cell and the implementation of CMS), but how

the entire gamut of international instruments to which India is a Party benefit the marine ecosystem is still unclear. Certain use-oriented legal instruments, both national and international such as MPEDA, Fisheries Act, and MARPOL, are *prima facie*, in contravention with certain conservation-oriented national and international laws (for example, WLPA and CMS). There is yet no legal mechanism which addresses the balancing of conflicting interests of various legislative mandates. This has direct bearing on the marine ecosystem itself. The threats to turtles, even under the present legal framework, are certainly alarming. It is imperative to address these concerns if the threat to marine turtles are to be minimized.

Lastly, there is a need to reemphasize the historical and mythological significance of turtles in India. Reverence for these animals, based on ancient traditions, is perhaps the most important reason for their survival in such large numbers on the Indian coast until today, although these traditions are changing. However, this aspect does not easily fall within the aegis of international law.

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