

# LEX TERRA

Center for Environmental Law, Advocacy and Research  
National Law University and Judicial Academy, Assam

ISSUE 34

SEPTEMBER 2021

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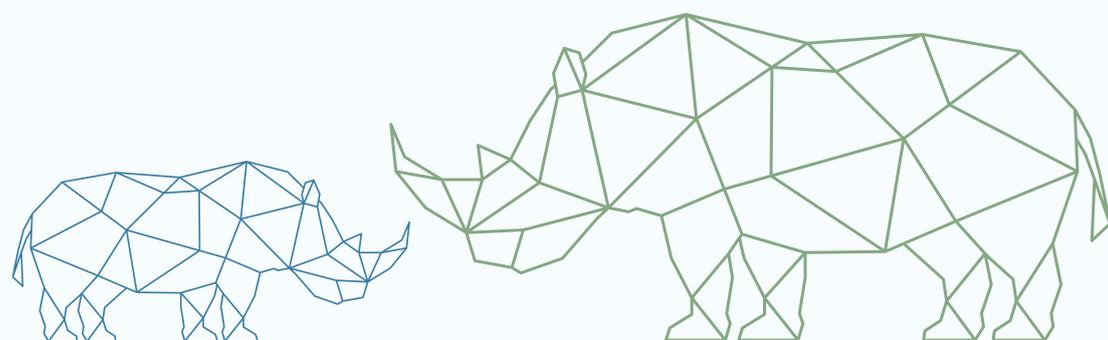
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## FOR QUERIES

### **Contact:**

### **Center for Environmental Law, Advocacy and Research (CELAR)**

National Law University and Judicial Academy, Assam

Hajo Road, Amingaon, Guwahati, Assam - 781031

Ph: +91-361-2738891 / +91-361-2738652 (Office)

Email: [celar@nluassam.ac.in](mailto:celar@nluassam.ac.in)

**ISSN: 2455-0965**

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# LEX TERRA

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**Prof. (Dr.) V.K. Ahuja**

Vice-Chancellor, National Law University and Judicial Academy, Assam (NLUJAA)

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## DESIGNED BY

**Abhishree Kashyap Baruah**

IV Year Student, NLUJAA

**Deepika Nandagudi Srinivasa**

IV Year Student, NLUJAA

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# ABOUT CELAR

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The fundamental aim of the Centre for Environmental Law, Advocacy, and Research (CELAR), National Law University and Judicial Academy, Assam, is to participate in advocacy and research on public interest environmental concerns. It endeavours to do so by holding workshops and seminars to educate and improve skills, convening conferences to encourage an exchange of ideas, conducting training programmes for capacity building in environmental law issues, undertaking legal research, and publishing newsletters and journals regularly.

The main objectives of CELAR can be elucidated as follows:

- Providing students with hands-on advocacy experience and direct exposure to the issues to inspire and educate them.
- Strengthen access to justice by conducting high-quality multi-disciplinary research on current environmental legal issues.
- Advocate for reforms in environmental law through scientifically sound legislative proposals.
- Organize training programmes for civil servants, law enforcement agencies, non-governmental organisations, and media professionals to improve their legal capacity on environmental laws and policy.
- Publish environmental law publications and bulletins on a regular basis.

Thus, to meet the last objective, Lex Terra is an initiative undertaken by CELAR. Through Lex Terra, we strive to provide a voice to various aspects of the environment, published every month, to create a community of environmentally conscious individuals from the legal and non-legal fraternity. Each issue of Lex Terra features important environmental news from across the world and from within the nation. This bulletin is meticulously compiled by CELAR members dedicated enviro-legal enthusiasts.

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# MESSAGE FROM THE CHIEF MENTOR

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It is, unfortunately, true that inadvertently as well eloquently, we humans are responsible for the liquidation of this planet without truly appreciating the negative consequences of minor things we do for its dilapidation. Education and awareness generation can be one of the positive moves to fix the irreparable damage that we have done to our mother nature, and in furtherance to such move, we as a legal institution, are continuously striving to bring environmentally benign news and views for several environmentally sentient readers.

In this context, it delights me to note that the Centre for Environmental Law, Advocacy and Research (CELAR), National Law University and Judicial Academy Assam, is releasing a new issue of its webzine, 'Lex Terra'. Lex Terra aims to be an e-forum that involves, promotes and engages students, scholars and anyone interested in environmental law, to express and share their opinions and ideas. It is our fervent expectation that this webzine will keep providing an academic forum to bring all ecologically conscious minds together to deliberate on environmentally benign developmental decisions.

I congratulate the entire team of CELAR for bringing out this webzine which justifies one of the significant mandates of National Law University and Judicial Academy, i.e., rendering a socially relevant legal education. I appreciate the efforts made by the student editors and peer reviewers in bringing out this webzine. I also bring on record the constant guidance being provided by CELAR teacher members to the students.

I am certain that this modest endeavour of CELAR will continue to stimulate and proliferate enviro-legal awareness.

**Prof. (Dr.) V.K. Ahuja,  
Vice-Chancellor, NLUJAA**

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# EDITORIAL

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**“We do not inherit the Earth from our ancestors; we borrow it from our children.”**

For billions of years, the earth has maintained itself through this close-ended negative feedback loop mechanism where biology and physical environment each influences the other. The Gaia theory portrays the earth as one gigantic living organism. The theory further propounds that living organisms interact with their inorganic surroundings to form a self-regulatory and synergistic relationship, which then helps to maintain perpetual life on earth.

In recent centuries, with the onset of the industrial revolution and rapid growth of technology, we have far exceeded the recovery mechanism. The aftermath of this is quite evident in the form of extreme weather conditions, recurring natural calamities, and climate change. In order to pass on an inhabitable planet to future generations, we need more stringent environmental protection laws and policies that are in consonance with the core elements of sustainable development. In this regard, a legal educational institution plays a pivotal role for the dissemination and generation of legal information and knowledge. With this core objective, the Editorial Board is pleased to present the 34th issue of Lex Terra, an initiative by the Centre for Environmental Law, Advocacy, and Research of National Law University and Judicial Academy, Assam.

Featuring in this Issue, we have some interesting and scholastic pieces from several facets of environmental law.

The first piece by Abhishek Iyer discusses the much debated Draft Environment Impact Assessment (EIA) notification issued by the Ministry of Environment, Forest and Climate Change (MoEF&CC) in 2020. In addition to a descriptive picture of its components, the author also critically analysed the said draft notification in light of India’s umbrella legislation, Environmental (Protection) Act 1986, and various other international obligations related to it. In order to ascertain the legal prudence of the proposed EIA notification, the author further draws a comparative analysis between the proposed and existing EIA norms in India. Thereafter, the author concludes by enlisting the problematic aspects of draft EIA,

2020. Amongst many such inefficiencies, as pointed out by the author, one is the ex post facto grant of environmental clearance to the pre-existing and operational illegal industries. Lamentably, the MoEF&CC's stance on introducing a clause that disregards flagrant environmental damage remains an ambiguous issue altogether.

The beauty of *Lex Terra* lies in its diversity of its content which portrays several thought provoking issues of the enviro-legal discourse. Attesting to this specific feature, comes the second piece by Neha Maria Antony that brings the tripartite relationship amongst culture, religion and environment. The author discusses how most religious and cultural practices in the past were interwoven with the environment. The article also reveals the gradual erosion of such practices with the passage of time. Neha has further highlighted how the religion and culture of any society can play an active role in both: protecting as well as degrading the environment. Balancing the competing interests of culture/religion on one end and environment, on another is a challenging aspect of environmental activism.

In the third article, Sonakshi Pandey brings to light how the proliferation in climate variability, along with the intensified encroachment of human activities on marine life, has unsympathetically affected the standard quality of the marine ecosystem. These concerns are heightened when one considers the fact that India ranks 12th in a list of 20 countries accountable for marine pollution. The author makes a case for the infringement of the right to health guaranteed under Article 21 of the Indian Constitution, as well as the violation of international obligations due to the marine ecological balance destruction. This eventually proves deleterious to the well-being of human lives in India. To avoid such destruction, the author observes that creating awareness regarding the harmonization of haleness of marine ecosystems and anthropogenic actions of humans is the need of the hour.

In the last article, Romi Kumari tries to find the extent to which the awareness of the hazards of a lifestyle based on plastic is recognized by the various wings of governance and judiciary. The author assesses the level of implementation of the preventive as well as curative laws and reforms in this regard. Further, the author asserts that the water-based ecosystem can be saved with better framing of laws relating to plastic waste management, along with the better implementation of the same. Lastly, by discussing various cases by the Supreme Court of India, the National Green Tribunal and other courts in the country, the author highlights the role of the judiciary in creating awareness with regard to the harmful impact of plastic waste on marine ecosystems.

With this issue of Lex Terra, the editorial board aspires to move yet another inch towards the goal of creating awareness in the field of Environmental Law. We would like to thank Dr. Chiradeep Basak, Assistant Professor of Law, NLUJAA, for his continued assistance and encouragement, without which, Issue 34 would not have been published. Mere words cannot do justice to exclaim how grateful we are to him. The Editorial Board is also grateful to peer reviewers who have taken out the time from their busy schedules to select the articles for this issue. We would like to express our gratitude to the Honourable Vice-Chancellor of NLUJAA, Prof. (Dr.) V.K. Ahuja for his keen interest and guidance, which made this issue of the webzine possible. Lastly, we thank the esteemed Registrar of NLUJAA, Dr. Indranoshee Das, for her continuous support throughout this endeavour.

**Lex Terra Editorial Board**  
**2021 - 2022**

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## CRITICAL ANALYSIS OF DRAFT ENVIRONMENT IMPACT ASSESSMENT (EIA), 2020: PRO FACILITATOR OF DEVELOPMENT?

Abhishek Iyer\*

### Introduction

Environment Protection Act, 1986<sup>1</sup> is the statutory pillar behind India's Environment law governance. In a bid to efficiently address and take cognisance of activities that directly or indirectly utilise, affect, or pollute natural resources, the Environment Impact Assessment norms are a powerful tool to identify environmental hazards and social impacts of any project, including infrastructural or industrial projects prior to granting its clearance for construction. This method of predicting environmental impacts at an early stage of a project helps reduce the adverse environmental impacts that can possibly arise at a later stage. On 23rd March 2020, the Draft Environment Impact Assessment Notification, 2020, was issued, which when notified subsequently, shall permanently replace the existing 2006 norms. The proposed norms in this particular Draft of 2020 have certain key and very monumental changes that aim at 'ease of doing business'. Through this paper, the author shall discuss the 2020 Draft notification in detail, including the key highlights and important points as proposed and critically analyse it in the light of India's environmental law parent legislation and international obligations. Lastly, the author shall compare the proposed norms with the existing norms to understand if this overhaul through Environment Impact Assessment, 2020 shall facilitate convenience for infrastructure projects or do more harm than good.

### History and Background

Environment (Protection) Act, 1986 [Hereinafter 'the 1986 Act'], grants the Central Government with the powers to impose certain restrictions and prohibit undertaking of certain projects or expansions which are primarily seen as to be suppressing the Environment Impact Assessment Notification(s) [Hereinafter 'EIA'] norms as issued by the government and its subsequent amendments. *Section 3(1)* of the Act<sup>2</sup> allows the government to "*protect and improve the quality of the environment*". The 1986 Act is an umbrella framework that established a systematic mechanism for coordination of central and state authorities by issuing notifications, rules, and directions that ensure that any non-compliance or contravention to the

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\* Fifth Year Student, B.A., LL.B. (Honours), Gujarat National Law University, Gandhinagar

<sup>1</sup> The Environment (Protection) Act, 1986 (Act 29 of 1986).

<sup>2</sup> The Environment (Protection) Act, 1986 (Act 29 of 1986), s. 3(1).

Environmental law framework in India shall lead to adverse consequences. In furtherance of the abovementioned powers with the government and its objectives towards sustainable development, India's first EIA notification was issued on 27<sup>th</sup> January 1994<sup>3</sup> which made Environmental Clearance [Hereinafter "EC"] mandatory for any expansion activities and modernisation projects. *Schedule 1* of the 1994 EIA notification had a list of projects which mandatorily needed the EC from the central government. This was a momentous occasion as India fulfilled its International environmental obligations of putting in place a stringent framework to check on unruly exploitation of natural resources and other environmental violations. Despite its few shortcomings, this EIA notification of 1994 held its feet till 2006.

In September 2006<sup>4</sup>, a fresh EIA notification replaced the 1994 norms and had a more detailed approach towards classifying industries and also particularly covered small scale industrial units amongst others for compulsorily obtaining EC. A new categorical classification for projects was introduced and divided into *Category A* and *Category B* projects. The first category of projects as specified in *Category A* had to mandatorily get the EC and need not undergo screening process for separate determination. On the other hand, *Category B* projects underwent initial screening and were further classified into *B1 Project* (Mandatorily require EC) and *B2 Project* (Did not require EC). The 2006 EIA notification had a 4-stage established process, which included *Screening*, *Scoping*, *Public Opinion*, and *Appraisal*.

Following the 2006 EIA norms, the Ministry of Environment, Forest and Climate Change [Hereinafter "MOEF"] proposed the updated EIA norms for 2020. To promote the larger objectives of sustainable development and saving the environment, the MOEF, in March 2020, published the Draft EIA.<sup>5</sup> The MOEF had sought for comments and feedback till the 11<sup>th</sup> August, 2020, but the timespan given for the comments was significantly less, and the public visibility of the Draft EIA, 2020 was second to none, which indirectly meant that many important stakeholders weren't given a satisfactory time period to share their comments and feedback to the MOEF.

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<sup>3</sup> Government of India, "The Environmental Impact Assessment Notification, 1994" (Ministry of Environment and Forests, 1994).

<sup>4</sup> Government of India, "Environment Impact Assessment Notification, 2006" (Ministry of Environment and Forests, 2006).

<sup>5</sup> Government of India, "Environment Impact Assessment Notification, 2020" (Ministry of Environment and Forests, 2020).

### Key Highlights of Draft EIA 2020

The following are the key highlights of the Draft EIA 2020, which intends to replace the 2006 norms and establish a fresher dimension of industrial projects and sustainable development:

- Rule 5(1) – Projects are divided into three categories – Category A, B1, and B2. The determination of category is based on the environmental impact that the project is potentially seen as to be having.
- Rule 4 - Two kinds of approval are introduced by the EIA 2020. The first one is *Prior Environment Clearance* (EC), depending on the project category either to be obtained from the ministry or the regulatory body. Secondly, *Prior Environment Permission* (EP) for certain B2 category of projects, as specified in the EIA 2020.
- Rule 14 - Projects such as those relating to irrigation, halogen production, chemical fertilisers, etc. and all other projects classified as B2 are exempted from public consultation, barring any scrutiny.
- The Draft EIA 2020 also brings in *Ex-Post Facto* clearance for projects going back to March 2017 Notification which legitimised all environmental violations. This essentially means that industrial units and other projects that are operation as of now illegally, without any environmental clearance, can now submit a remedial plan to turn their illegal project into a legal one. This clearance allows projects to go back in time and obtain their EC or EP by merely paying penalties without providing any reasons.
- Draft EIA 2020 aims to promote 'ease of doing business' by not hindering the already functional businesses merely on the ground of non-compliance. Such projects are given an opportunity to pay penalties and get their remedial plans approved so that they are promptly given the EC, and their older liabilities can be cleared as per the dues charged. This is a visionary move trying to promote easy business doing in India.

### Critical Analysis of Draft EIA 2020

Protection of the environment and improving its overall existence is a primary duty of every citizen of India<sup>6</sup>, and public scrutiny in environment projects is very crucial. Even the Hon'ble Delhi High Court in *Samarth Trust Case*<sup>7</sup> had noted that public participation through EIA for decision making, which involves large scale projects and development is "a part of participatory justice which gives voice to the voiceless".

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<sup>6</sup> The Constitution of India, art. 51A(g).

<sup>7</sup> *Samarth Trust and Anr. v. Union of India*, Writ Petition (Civil) No. 9317 of 2009.

The following are some critical issues that the government has perhaps not elaborately dealt upon and, when critically thought upon, enrages the people at large:

- ***Ex-post Facto* grant of EC**

- This is a matter of big concern which ultimately legitimises the illegal industries that are operating thus far without requisite EC, and the government has not justified its stand on the introduction of such a clause which totally disregards the environmental damage by giving them a new lifeline.
- The Hon'ble Supreme Court of India has earlier dealt with *Ex-Post Facto* clearance in the context of Environmental jurisprudence. In *Alembic Pharmaceuticals Ltd. v. Rohit Prajapati & Ors.*,<sup>8</sup> Hon'ble Supreme Court had reiterated that any attempt to grant *Ex-Post Facto* clearance would be void. It held that “*ex post facto clearances are unsustainable is law and void.*” Supreme Court was examining the findings of the Hon'ble National Green Tribunal and reiterated its findings which had categorically disallowed any environmental clearances in a retrospective manner.
- Even in *Common Cause v. Union of India*<sup>9</sup>, it was a settled proposition that “*the concept of an ex post facto or a retrospective EC is completely alien to environmental jurisprudence.*”
- Not just this, there have been instances of projects being approved, and their violations of environmental laws have been remedied by merely levying fines. Recently a coal mining project got approved<sup>10</sup> in Assam's Dhing Patkai region. The Assam Forest Department approved 43 Crore rupees fine for illegal mining since 2003, thereby legitimising 16-yrs worth of illegal mining.

- **Reclassification, exemptions and exclusions of projects from certain categories:**

- Forty different projects have been exempted from the need of applying for a prior EC or EP. *Clause 26* of the EIA 2020 allows several thermal plant projects, extraction, maintenance, digging, work relating to construction of buildings etc., without having the need to obtain any prior EC. Community works no longer need any EP or EC.

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<sup>8</sup> *Alembic Pharmaceuticals Ltd. v. Rohit Prajapati & Ors.*, Civil Appeal No. 1526 of 2016.

<sup>9</sup> *Common Cause v. Union of India*, Writ Petition (Civil) No. 215 of 2005.

<sup>10</sup> “Coal India Slapped Rs 43.25 Crore fine for Illegal Mining in Assam Forest”, *Outlook India*, 6<sup>th</sup> May, 2020, available at: <https://www.outlookindia.com/newscroll/coal-india-slapped-rs-4325-cr-fine-for-illegal-mining-in-assam-forest/1825791>

- B2 category of projects that are also classified in the RED category exempting scrutiny.

- **Other Aspects**

Earlier, the compliance reporting obligation on the proposer of the project was kept at once every six months to file his environmental compliance report. The EIA 2020 aims to extend this period of filing to one year. The Draft EIA 2020 norms do not justify international environmental principles and favouring projects at the cost of the environment is contrary to the intent of any environmental law in India. The National Green Tribunal in *Society for Protection of Environment & Biodiversity v. Union of India*<sup>11</sup> had rightly stated that *deregulation of environmental legislation favours development at the expense of the environment*.

“Polluter Pays” is an internationally recognised principle whereby the promoter of a project in this case who pollutes or reasonably foresees any possible environmental damages has to pay for it<sup>12</sup>. EIA 2020 has a very distinct approach where it has quantified the possible environmental damages into a capped penalty limit. While a reasonable economic analysis will make us better understand that the costs incurred or levied as a penalty should be proportionate to the environmental damages. The polluter here does not pay not even close to what the possible damage is foreseen due to the proposed project or development work sans proper clearance.

India ranks at the bottom worst of 168<sup>th</sup> position<sup>13</sup> in the 2020 Environmental Performance Index (EPI). Despite having a shoddy environmental maintenance record, India's pro-money EIA 2020 norms are doing worse than good. The government's systematic refusal to listen to key stakeholders and consider their opinion shall surely pay off negatively in the times to come.

## **Conclusion**

The government's role is under severe scrutiny after the Draft EIA 2020 was published. From giving insufficient time for comments from stakeholders to refusing to publish the Draft in

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<sup>11</sup> *Society for Protection of Environment & Biodiversity v. Union of India*, Civil Appeal No. 677 of 2016.

<sup>12</sup> What is the Polluter Pays Principle?, available at: <https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-polluter-pays-principle/> (last visited on Month Date, Year).

<sup>13</sup> Yale University, “Environmental Performance Index 2020” (Yale Center for Environmental Law & Policy, 2020).

different languages for regional penetration, the never-ending criticism and the government's non-encouraging responses have posed a difficult question as to whether the government's job is to be a pro facilitator of development projects or a very cautious environmental regulator.

To conclude, the Draft EIA 2020 is problematic and needs critical attention at legislative level due to the following points:

- Systematic exemptions and exclusion of various category of projects, including small-time construction work till 150000 sq. mtr., irrigation, community construction and several other RED categories of projects. The other forty-odd project types also excluded from the need to obtain prior EP or EC.
- *Ex-Post Facto* clearance to all projects irrespective of them operating illegally for howsoever long. Multiple High Courts and even the Supreme Court of India have observed how this type of retrospective clearance is fatal and not subservient to the larger goal of sustainable development and protection.
- Removal of public participation in key development of projects that are frequent and categorised as *B2 Projects*. Public scrutiny is of utmost importance since wherever or however the project is executed, there are certain amount of people who will be directly affected as a consequence. The government cannot simply overlook these aspects and grant EC or say there is no need for an EC. The current framework gives unbridled powers to the proposers to make and approve his projects even though they might be potentially harmful for the environment.
- The non-publication of Draft EIA for the longest time until September, when the general public consultation phase was already over since a long time. Even if the same is promptly published, the 20-day period for public consultation is very minimal.
- Compliance to EC and the norms as cleared is of primary importance. The way in which a proposer shall justify his work is by filing a report. The Draft EIA 2020 aims to increase the 6-month period for compulsory filing of Compliance report to a full one-year period. This Draft gives extra 06 months' time whereby the proposer need not apprise the authorities of their compliance and due procedure according to the EC obtained or Environmental laws.

Thus, there are some extremely important aspects that can be construed from a critical analysis of the Draft EIA 2020. It is only fair to expect the government to listen to the raised objections

and large public outcry so that the future changes will be a win-win for all three stakeholders, including the proposers of the project, the government, and the people.

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**ENVIRONMENTAL PROTECTION – CULTURAL AND RELIGIOUS PRACTICES**

Neha Maria Antony\*

**Introduction**

For as far back as the memory of humanity stretches, nature and its elements have played an undeniable, omnipresent role, being the fearsome unknown that destroyed ruthlessly, revered as Gods, or hailed as the source of all sustenance. The earliest religions and indeed the concept of religious fear, faith, and worship, have had close links with nature. Cultural practices which evolved alongside them imbibed these ideals and became interwoven with the environment as well.

In modern day India, however, these practices have been eroded by the changing times, with some practices mutating and becoming threats to the environment instead. And particularly in India, with the unique interplay and emphasis given to culture and religion, it becomes essential to understand the cultural and religious practices which have an impact, be it positive or negative, on the environment. It is also seen that there are several interlinked conflicts, particularly when questions arise as to the balance between religious freedom or cultural interests and environmental protection.

**The Environment and Religion**

Religion and the environment lie so closely entangled that major deities in religions like Hinduism are personified elements of nature.<sup>1</sup> The beginnings of religious beliefs are traced back to the fear of natural elements, which later became recast as Gods. Religion is an influential factor in several respects when it comes to the environment, making it pertinent to analyse religious habits, practices, and rituals to understand how it affects the environment and to harness the religious beliefs of people to allow for the holistic protection of the environment.

In several ritualistic religions, Hinduism in particular, bathing in a holy water body, such as taking a dip in the Ganges is seen as a sacred ritual,<sup>2</sup> a soul cleansing, so to say. During large-

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\* Fourth Year Student, B.A., LL.B. (Honours), National University of Advanced Legal Studies, Kochi

<sup>1</sup> Julius Lipner, "Hindu Deities" British Library (2019), available at: <https://www.bl.uk/sacred-texts/articles/hindu-deities#>.

<sup>2</sup> Stephen Alter, *Sacred Waters: A Pilgrimage Up the Ganges River to the Source of Hindu Culture* (Harcourt, 2001).

scale religious gatherings like the Kumbh Mela<sup>3</sup> believers bathe in the river en masse which causes severe environmental effects, most notably, a sharp spike in the Biological Oxygen Demand<sup>4</sup> levels of the water body. In studies conducted on the Pampa river, situated in close proximity to the religious site of Sabarimala, it was found that practices like mass bathing and defecation into the river, by pilgrims and others, particularly during the peak pilgrimage seasons, had a direct impact on the water quality and pollution levels.<sup>5</sup> The water, used for consumption and cooking at various spots, and the practice of mass defecation into the river, poses a threat, in the form of pathogen transmission and other health concerns. There is also the pollution that is caused owing to improper waste management as pilgrims dispose of the materials that they use, either into the forests or into the river. The inflow of pilgrims is only expected to rise, and the impact on the environment will increase manifold, bringing these issues to proportions that cannot be ignored.

Another practice which has also been met with judicial scrutiny,<sup>6</sup> is that of immersion of the idols of deities into rivers and other water bodies, particularly during religious festivals. These idols were originally made of clay and other biodegradable materials, but as time passed, materials like metal frames, Plaster of Paris, toxic paints, and such material harmful to the environment became the norm. In a practice that was aimed at paying respect to the Gods, it was seen that the immersed idols ultimately ended up in huge mounds of waste and contributes to widespread pollution.<sup>7</sup> It can also be found that animal sacrifices are accepted and perpetuated in some religious tenets, while others advocate reverence and protection of certain animals or birds.

In contrast, certain religious practices have also helped protect the environment. Attention may be drawn to the existence and preservation of 'sacred groves' in multiple pockets of the country. These sacred groves also allow for the protection of wildlife and discovery of unique and rare species within protected patches of forest area, and it has been found that the

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<sup>3</sup> Geeta Pandey, Kumbh Mela: Millions of Indians Take Holy Dip, *available at*: <https://www.bbc.com/news/world-asia-india-46860409> (last visited on Jan. 15, 2019).

<sup>4</sup> Anita Bhatnagar *et. al.*, "Impact of Mass Bathing and Religious Activities on Water Quality Index of Prominent Water Bodies", 2915905 *International Journal of Ecology* (2016). Also see, Ram Dutt Tripathi, India Kumbh Mela Dip 'Raised Ganges River Pollution', *available at*: <https://www.bbc.com/news/world-asia-india-21175890> (last visited on Jan. 24, 2013).

<sup>5</sup> Lok Sabha, "63<sup>rd</sup> Report of the Public Accounts Committee on Pilgrimage to Sabarimala – Human Problems and Ecology by Ministry of Environment & Forests" (2004).

<sup>6</sup> *Dhondiba Irba Namwad v. State of Maharashtra & Ors.*, MANU/MH/1113/2020.

<sup>7</sup> Delhi Pollution Control Committee, "Impact of Idol Immersion on the Water Quality of River Yamuna" (2019).

believers who live in close proximity to, and care for the groves, have rich knowledge about the flora and fauna in the area, particularly those which are medicinal or have therapeutic properties.<sup>8</sup> Sacred groves have been recognised by the government and several projects and schemes have been put forth for the same<sup>9</sup> though these are slowly dying out owing to urbanisation and other such factors and the National Green Tribunal has stressed on the importance of conserving these groves and identifying more such sacred groves.<sup>10</sup>

### **The Environment and Culture**

Cultural diversity in India is characterised by rich traditional habits and practices which advocate mutual harmony with nature in their lifestyle. Much like religion, and often lying entangled with religious undertones, cultural practices are also seen to have an impact on the environment, and some cultural traditions have attained massive proportions and international recognition, often pushing these into forms that are harmful to the environment.

Holi, for instance, an extremely potent cultural practice with religious connotations, is often fraught with environmental degradation. From the toxic chemicals used in the coloured powders used to celebrate Holi, which later leach into the water sources, to the sheer wastage of water during the celebrations, they have all been scrutinised in recent years. Similarly, other practices like the lantern festivals in several Asian cultures,<sup>11</sup> is also found to have harsh environmental consequences.<sup>12</sup> These celebrations are often marketed as crowd pullers and tourist attractions and have spread to other parts of the world, with communities engaging in lighting up hundreds, if not thousands, of lanterns and releasing them into the sky. While it is a sight to behold, these lanterns soon burn out and the remnants fall back to the ground, which has been found to cause fires, widespread pollution and is also hazardous to animals who may get caught in them or consume the parts of such a lantern, choking them to death.

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<sup>8</sup> Government of India, "Sacred Groves of North Kerala" (March, 2017), *available at*: [http://www.cpreecervis.nic.in/Database/SacredGrovesofNorthKerala\\_3676.aspx](http://www.cpreecervis.nic.in/Database/SacredGrovesofNorthKerala_3676.aspx).

<sup>9</sup> U.M. Chandrashekara, "Conservation And Management Of Sacred Groves In Kerala", RP 597/2010, (2011).

<sup>10</sup> *Kuruvichira Sri Nagaraja Temple v. The Secretary, Kunnathunad Grama Panchayat & Ors.*, Org. App. No. 261/2017 (NGT).

<sup>11</sup> Lantern Festival, *available at*: <https://www.britannica.com/topic/Lantern-Festival> (last visited on March 12, 2021).

<sup>12</sup> Leo Hickman, What is the Environmental Impact of a Sky Lantern?, *available at*: <https://www.theguardian.com/environment/ethicalivingblog/2009/jul/31/sky-lanterns> (last visited on July 31, 2009).

A common feature in such practices is that these were nearly always started out as environmentally sound practices with inbuilt mechanisms to ensure that no damage was done to the environment. Later, however, owing to many causes, including that of communities losing touch with their ancestral roots, or perhaps owing to commercialisation and capitalist gimmicks, these practices evolved into forms that are now adversely affecting the environment.

All is not lost, however, and positive tales of culture and nature in mutually beneficial relationships have also been brought forth. A case in point would be that of Apatani in the Indian state of Arunachal Pradesh, where the community carries out a hybrid version of rice cultivation in which standing waters are also used to farm fish. Modern utilities have not been used in the valley, but the resources are sustainably used and are replenished by the practices like the use of nutrient-enriched rainwater which washes down the valley, which they employ, which contribute to their livelihood as well.<sup>13</sup> Other cultural practices can be found closely linked to agriculture or where there is protection of several 'resource species' and limitation of grazing on specific lands, conservation of habitats and so on, which was exhibited in Uttarakhand, close to the bounty of the Himalayas.<sup>14</sup>

International instruments like the Convention for the Safeguarding of the Intangible Cultural Heritage,<sup>15</sup> and the UN Declaration on the Rights of Indigenous Peoples,<sup>16</sup> recognise and aim to protect the cultural practices which contribute to sustainable and equitable development of the environment. On the national level, legislations like the Forest Rights Acts,<sup>17</sup> and governmental policies operate in this regard. Judicial guidelines can also be found in this realm, though implementation and follow-up is considerably weak.

### **Lessons Learned and the Way Forward**

Religious and cultural practices, at least in the past, were all evolved from a close relationship with nature, and hence, people took only what they required, often replenishing the resources

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<sup>13</sup> Persis Parooqy, "Symbiosis Between Nature & Culture – A Case Study of the Apatani Cultural Landscape, India" *Journal of World Heritage Studies* 51 (2017).

<sup>14</sup> Chadra Singh Negi, "Traditional Culture and Biodiversity Conservation: Examples From Uttarakhand, Central Himalaya", 30 *Mountain Research and Development* 259 (2010), <https://bioone.org/journals/Mountain-Research-and-Development>.

<sup>15</sup> Convention for the Safeguarding of the Intangible Cultural Heritage, 2003.

<sup>16</sup> UN Declaration on the Rights of Indigenous Peoples, 2007.

<sup>17</sup> The Scheduled Tribes And Other Traditional Forest Dwellers (Recognition Of Forest Rights) Act, 2006.

they took with them. Much of these practices and beliefs were perfectly aligned with the basic tenets of sustainable development, though the same cannot be said now. Practices which lie entangled with religion and culture are extremely volatile and closely linked with the people and their fundamental identities. This makes it harder to utilise the law as an instrument to overcome the actual and potential ill effects of the same. Trying to forge the law in a manner to protect the environment as was seen in the case of Jallikattu, resulted in severe communal backlash and the decision of the Supreme Court banning Jallikattu<sup>18</sup> was overcome by the subsequent moves made by the Tamil Nadu Government,<sup>19</sup> owing in part, to the cultural sentiments of the people.

It is also interesting to note that religious and cultural beliefs have been found to influence environmental risk perception as well, wherein believers tend to undermine the environmental impact on such sacred elements attuned to religion.<sup>20</sup> While it may be argued that attributing some religious value to nature might contribute to its protection as seen in the case of sacred groves, practical experience in many instances like that of the pollution of the Ganges, reveals that religion might hamper environmental risk perception, leading people to believe that the sacred nature of the river bars all human intervention or attempts to protect it or where the environmental risks are seen as divine wrath and accepted as punishment.<sup>21</sup>

Another intriguing prospect is seen in research that points towards the relation between the number of religious people in a country and environmental impact, particularly when religion or culture impact fertility choices or lifestyle decisions.<sup>22</sup> Countries like India, with most of its population identifying as religious, are found to be prone to more environmental risks as well as less prepared to meet the consequences of such risks.

In this regard, the first step would be to undertake proper research and scientific assessment of the practices and their impact on the environment. Much of these areas are unexplored,

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<sup>18</sup> *Animal Welfare Board of India v. A. Nagaraja & Ors.*, (2014) 7 SCC 547.

<sup>19</sup> Tamil Nadu to Take Ordinance Route for Conducting Jallikattu, *available at*: <https://www.thehindu.com/news/national/tamil-nadu/tamil-nadu-government-to-issue-ordinance-on-jallikattu/article17066685.ece1> (last visited on September 13, 2017). Also see, Tamil Nadu Passes Order To Lift Bull-Taming Ban After Angry Protests, *available at*: <https://www.theguardian.com/world/2017/jan/23/tamil-nadu-passes-order-lift-jallikattu-bull-taming-ban-india-protests> (last visited January 23, 2017).

<sup>20</sup> Sonya Sachdeva, "The Influence of Sacred Beliefs in Environmental Risk Perception and Attitudes" 49(5) *Environment and Behaviour* 583 (2016).

<sup>21</sup> Sonya Sachdeva, *Oxford Research Encyclopedia of Climate Science* (2016).

<sup>22</sup> Skirbekk *et. al.*, "Religious Affiliation and Environmental Challenges in the 21st Century" 7 *Journal of Religion and Demography* 238 (2020).

perhaps fearing community backlash, but the effects of the same cannot be ignored. These results will then have to be properly analysed and policies made in consultation with the NGOs, religious groups, and communities involved. These stakeholders will then have to be empowered to spread awareness and implement these policy measures. Considering that religion and culture are involved, the change has to originate not from the iron hand of the law, but from the people themselves.

In keeping with the fundamental duty under Article 51 A (g)<sup>23</sup> the integrated<sup>24</sup> system would operate on a level that is most consistent with the people and their interests along with that of the environment. A periodic review of these policies and their impact have to be considered in order to rework and weave in concepts like benefit sharing and boost to eco-friendly tourism. It can be seen that religious groups are becoming more open to the promotion of environmentally sustainable practices, particularly when it comes to pilgrimages or idol immersion, but these are sporadic and scattered with the practices largely being limited to small pockets and not accepted as the norm, harming their efficacy and perception. Community inclusion<sup>25</sup> and grass root level participation<sup>26</sup> are also sought to be reinforced by identifying resonant religious and cultural beliefs. In particular, such practices have to be encouraged in light of societal perceptions. It is also to be bolstered by the provision of employment or alternate sources of income to the communities that maintain such cultural practices like sacred groves so that they do not move away, give up the practices to exploitative entities.

## Conclusion

The common conscience of humanity has only begun to grasp the repercussions of all the damage that has been caused to the environment and is slowly inching back to policies of restoration, revival, and promotion of environmentally sustainable practices. And in this

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<sup>23</sup> The Constitution of India. art. 51 A, cl. (g).

<sup>24</sup> Dr. M. Niamir-Fuller et. al., *Environment, Religion and Culture in the Context of the 2030 Agenda for Sustainable Development*, Second International Seminar on Environment, Culture and Religion – Promoting Intercultural Dialogue for Sustainable Development, Held 23 – 24 April 2016, Tehran, Islamic Republic of Iran, available at [https://wedocs.unep.org/bitstream/handle/20.500.11822/8696/-Environment\\_religion\\_and\\_culture\\_in\\_the\\_context\\_of\\_the\\_2030\\_agenda\\_for\\_sustainable\\_development-2016Environment,\\_religion\\_and\\_culture\\_in\\_the\\_context\\_.pdf?sequence=2&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/8696/-Environment_religion_and_culture_in_the_context_of_the_2030_agenda_for_sustainable_development-2016Environment,_religion_and_culture_in_the_context_.pdf?sequence=2&isAllowed=y)

<sup>25</sup> Siyuan He et. al., “Community Participation in Nature Conservation: The Chinese Experience and Its Implication to National Park Management” 12 *Sustainability* (2020), available at: <http://www.mdpi.com/journal/sustainability>.

<sup>26</sup> Emily Woodhouse et. al., “A Discussion Note prepared for the Second International Seminar on Environment, Culture and Religion – Promoting Intercultural Dialogue for Sustainable Development” 43 *Journal of Human Ecology* 295 (2015).

move, it might become a crucial step to identify practices that are resonant with religious and cultural values and thus have an intrinsic link to people's beliefs and the environment. The best way forward is to engage key stakeholders like the communities, institutions of research, NGOs, and local self-governments, among others, to identify the wealth they have in their hands and to effectively hone it into means to protect the environment. Additionally, it may be beneficial to boost the importance ascribed to age-old practices (like using clay idols for idol immersion) which are often found to be sustainable and have a minimal impact on the environment.

Reinforcing such positive practices and finding sustainable alternatives to those which have an adverse impact on the environment would be a definitive step in the direction of environment protection, particularly in the context of India. It is thus, incumbent on us, as a nation, to embrace our rich religious and cultural roots, and to strengthen the ties that we have with nature, in the quest entrusted to the human race, to save the environment.

It may also be worthwhile to look at avenues like geographical indications and traditional knowledge, with ties to culture and perhaps even religion, and to turn these into commercially successful ventures. This can ensure that the sustainable methods of production in tune with generational practices can be kept safe and turned into a viable source of income for the groups that live attuned to nature.

The possibilities are endless, and there remains no doubt that the protection of the environment is a mandate common to all humanity. In this regard, religion and culture, are formidable powers that, if harnessed in their positive potential for change, can do wonders for the environment.

**MARINE POLLUTION IN INDIA: AN ANALYSIS OF LEGISLATIVE AND JUDICIAL RESPONSE**

Sonakshi Pandey\*

**Introduction**

More than 3 billion people around the world either directly or incidentally are sustained by the nourishment, subsistence, medicament, and means of income acquired through our oceans. Industries related to marine, and seafood, and business associated with voyaging, shipment, transit, and tourism, allocate the means of maintenance and sustenance to millions of people worldwide. However, as the result of proliferation in climate variability along with the intensified encroachment of human activities on marine life including the discharge of liquid petroleum hydrocarbons into the marine ecosystem which is specifically named as Oil Spilling, exhaustive mining at the bottom and beds of the oceans, and discarding of plastic and other waste materials in the oceans, the idiosyncrasy and standard quality of marine ecosystem and haleness of bionetwork surrounding the oceans have been unsympathetically affected. The destruction of the marine ecological balance eventually proves deleterious to the healthiness and well-being of human lives in India, which ultimately infringes their fundamental right to health protected under Article 21 of the Constitution of India. Nevertheless, the necessity for the preservation of marine life was felt back in the year 1982 when the 'United Nations Conventions on the Law of Seas' ('UNCLOS') was materialized between the various member nations. The agreement substantially defined the obligations and duties of the coastal nations with respect to the utilization and perpetuation of the marine ecosystem and corresponding assets related to the marine environment. India became a signatory to the convention in 1995 and being a member nation, India got bound by the UNCLOS treaty which led to the resolution of many sea boundary disputes arising between India and other countries including the judgment of Permanent Court of Arbitration on India and Bangladesh sea boundary dispute on July 7, 2014.<sup>1</sup> Indian Parliament has also been continuously making efforts to protect the marine environment of the country by framing various legislations like 'The Maritime Zones of India Act, 1976', and 'The Coast Guard Act, 1978'. Also, the Coast Guard has been consequently designated as the chief administration for the oil spill response in the maritime zones of the nation, and in addition to that the coastal guard authorities were bestowed with the powers under the Shipment Act of 1958

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\* LL.M. (2018-19), National Law Institute University, Bhopal

<sup>1</sup> Harun Ur Rashid, India-Bangladesh: UNCLOS and the Sea Boundary Dispute, Institute of Peace and Conflict Studies, *available at*: [http://www.ipcs.org/comm\\_select.php?articleNo=4557](http://www.ipcs.org/comm_select.php?articleNo=4557).

which empowered them to take strict measures for curbing marine pollution. On the same lines, the government passed the 'National Oil Spill Disaster Contingency Plan' ('NOSDCP') in 1993 which assigned the patentability to the concerned departments and Ministries for oil spill administration in Indian maritime zones.<sup>2</sup> Another welcome decision was the introduction of Automated Ocean Pollution Observation System in 2018 which is designed to report the mechanical and preprogrammed data on marine pollution encircling Indian oceans.<sup>3</sup> However, it seems that these legislations are still lagging behind to achieve the purpose of preservation of marine ecosystem into reality, as the report proposed by 'The United Nations Environment Program' for the year 2015 revealed that India discharges around 0.6 tonnes of plastic waste into the ocean annually and stands currently placed at the 12<sup>th</sup> position out of the 20 nations accountable for marine pollution.<sup>4</sup>

### **Causes of Marine Pollution in India**

Marine Pollution can be largely described as the direct or incidental circulation of toxic materials and energies into the marine ecosystem caused by the unpalatable interference of human activities which eventually results in the defacement of biotic lives encircling the oceans, which are absolutely precarious to haleness and healthiness of human beings and gives birth to many impediments concerning marine business including fishing, shipping, tourism, and transportation.<sup>5</sup> With the escalation and enlargement of industrial and agricultural occupation all around the world, the issue of marine pollution has also been continuously getting intensified. The attribution for the pollution of the marine environment goes to many natural and artificial sources. India as a nation has been canonized with the 7500km long coastline and around 1200 mini and big islands around its Exclusive Economic Zone by nature. However, with the introduction of increasing amount of biotic and abiotic toxic substances into the coastal water which have been continuously expanding over the years – marine environment has deteriorated, which results in the extensive desolation of dissolved oxygen and microbial concentration levels which are the very essence of proper soundness and wholesomeness of marine water and associated resources. It is a noteworthy fact that 5 milligrams per liter of dissolved oxygen is always required for maintaining a

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<sup>2</sup> National Oil Spill Disaster Contingency Plan (NOS-DCP), 1994.

<sup>3</sup> Saptarshi Dutta, Tackling Marine Pollution Gets A Boost As India's Automated Ocean Pollution Observation System is All Set to Sail By April 2018, *available at*: <https://swachhindia.ndtv.com/tackling-marine-pollution-gets-a-boost-as-indias-automated-ocean-pollution-observation-system-is-all-set-to-sail-by-april-2018-16853/>.

<sup>4</sup> UN Development Programme, *Human Development Report for 2015*, *available at*: [http://hdr.undp.org/sites/default/files/2015\\_human\\_development\\_report.pdf](http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf).

<sup>5</sup> Glossary of Environment Statistics, Studies in Methods, Series F, No. 67, United Nations, New York, 1997.

healthy balance in the eco-sensitive maritime zones.<sup>6</sup> However, the study done by the Ministry of Earth Sciences disclosed that by the end of December 2018, this level of Dissolved oxygen was found to be getting depleted in many coastal areas of India, mostly in the locations where the direct discharge of untreated sewage was reported by some industries.<sup>7</sup> The report of the Ministry also revealed that there are around total of 13 states and union territories that exist around the coastal areas of India and they altogether produce approx. 33,215MLD of sewage, but acerbity lies in the fact that the patentability of these states regarding the treatment of sewage waste is limited only up to the capacity of 12673 MLD. Thus, the rest amount of the raw and untreated sewage waste is directly discharged into the marine water by the states.<sup>8</sup> A study conducted by the Central Pollution and Control Board, ('CPCB') concluded that there are around 302 contaminated river stretches found in India. CPCB is also authorized to keep a continuous track of the standard quality of river water since 1977-78. National Water Quality Monitoring Program conducted by the CPCB in the year 2017 shows that 445 rivers existing in 1275 different localities of India are suffering from contamination caused by various biotic sources, which eventually results in the proliferation of Biological Oxygen Demand level in the water.<sup>9</sup>

#### **Polluted River Stretches along the Coastal Areas of India<sup>10</sup>**

<b>States</b>	<b>No. of towns along polluted river stretches</b>	<b>No. of polluted river stretches</b>
Maharashtra	161	49
West Bengal	47	17
Gujarat	38	20
Karnataka	24	15
Tamil Nadu	23	7
Kerala	22	13

<sup>6</sup> B. S. R. V. Prasad, P. D. N. Srinivasu, *et. al.*, "Dynamics of Dissolved Oxygen in Relation to Saturation and Health of an Aquatic Body: A Case for Chilka Lagoon, India" 2014 *Journal of Ecosystems* 17 (2014).

<sup>7</sup> Aditi, Marine and coastal pollution in India: An overview, *available at*: <https://geographyandyou.com/coastal-pollution/>.

<sup>8</sup> Government of India, "National Health Mission, Annual Report 2018" (Ministry of Earth Sciences, 2018), *available at*: <https://main.mohfw.gov.in/sites/default/files/02%20ChapterAN2018-19.pdf>.

<sup>9</sup> Central Pollution Control Board, "Annual Report 2017-18" (2018) *available at*: <https://cpcb.nic.in/openpdffile.php?id=UmVwb3J0RmlsZXMvOTIyXzE1NjQwMzg5OTFfbWVkaWFwaG90bzE0Mjg2LnBkZg==>.

<sup>10</sup> Swati Bansal, India has 45 critical river stretches: CPCB, *available at*: <https://www.indiawaterportal.org/articles/india-has-45-critically-polluted-river-stretches-cpcb>.

Odisha	20	7
Goa	9	8
Andhra Pradesh	8	6
Daman Diu	2	1
Total	354	148

There may be many causes of marine pollution. Some of the major sources recognized by the Ministry of Earth Sciences include municipal garbage, industrial and factorial discharge, aquaculture outflow, agricultural pesticides, pollutants from ports and harbors, heavy metals, oil spills, and sea bed mining.<sup>11</sup> However, the major kinds of marine pollution can be classified as:

- *Eutrophication*: It is the process of contamination of marine water by the introduction of various toxic chemicals, especially nitrates and phosphates which ultimately lead to the dropping down the oxygen levels of water along with the declination in water quality and this largely affects the marine life and rich flora and fauna surrounding the coastal areas.
- *Acidification*: Acidification of marine water is generally caused by the excessive absorption of carbon dioxide by the oceans from the natural atmosphere. Scientists and researchers are still unconscious of the destruction that may be created by the increasing carbon dioxide in the water. However, one thing is clear that it will certainly lead to the decomposition of the calcium and carbonates products in water that will eventually hamper the process of shell formations in shellfishes and corals too.
- *Toxification*: There are toxic materials such as pesticides, DDT, insecticides, polychlorinated biphenyls, furans, tributyltin, and radioactive substances which do not get solvated and diffused in the marine water easily and it leads to the agglomeration of these toxic wastes into the tissue cells of aquatic animals and thus causes defacement to the marine environment and species residing therein.
- *Plastic Pollution*: The continued increasing reliance of humans on plastic products effectuates the overloading of rivers and oceans with plastic debris and wastes which many times led to the death blow to the marine life forms by strangulation and suffocation.

<sup>11</sup> Central Pollution and Control Board, "River Stretches for Restoration of Water Quality" (September, 2018), available at: [https://nrcd.nic.in/writereaddata/FileUpload/River\\_STRETCHES\\_Sept\\_2018.pdf](https://nrcd.nic.in/writereaddata/FileUpload/River_STRETCHES_Sept_2018.pdf).

- *Oil Spilling*: Oil spilling is another process that leads to the major destruction to the haleness of marine creatures which generally occurs through the unwanted discharge of petroleum hydrocarbons into the ocean water. Oil spilling is hazardous to human life too as people get involved in the cleaning of spills caused around the coastal regions or consumes seafood affected by oil spilling become more often prone to many skin diseases, eye irritations, anxiety and stress issues, and breathing problems as well.
- *Seabed Mining*: The process of sea mining involves the unpleasant extraction of minerals from the bottom beds of the ocean and coastal regions which in turn results in the complete destruction of the ecological balance of the marine environment including the loss of habitation of aquatic creatures.

### Major Legislations and Policies Related to Marine Ecosystem of India<sup>12</sup>

Relevant Legislations	Salient features concerning Marine Environment
Indian Fisheries Act, 1897	Provides for the conservation of fisheries from incendiary devices and dynamites.
Indian Ports Act, 1908	Provides regulations regarding conservation of ports and safeguarding of shipments.
Coast Guard Act, 1950	Penalizes the actions polluting coastal ports and marine water in India.
Merchant Shipping Act, 1958	Provides rules concerning reduction of pollution caused by shipping and voyage.
Wildlife Protection Act, 1972	Provides the provisions related to protection of aquatic creatures, in situ conservation along with flora and fauna. Later amendments of 1991 and 2000 also include the protection of fisheries, corals and shellfishes and other endangered water creatures.
Water (Prevention and Pollution of Control) Act, 1974	Regulations for the reduction of marine pollution encircling the 5km. of sea area and also include tidal waves.

<sup>12</sup> Government of India, "Marine and Coastal Environment" (Ministry of Earth Sciences), available at: <http://moef.gov.in/wp-content/uploads/wssd/doc2/ch11.pdf>.

Maritime Zones Act, 1976	Act explicitly categorized the marine ecosystem into Continental shelf, territorial waters and Exclusive Economic Zones.
Marine Fishing Regulation Act, 1978	Provides regulations for the coastal states to take efforts for the protection of fisheries around territorial waters.
Forest Conservation Act, 1980	Conservation of Marine rich biodiversity.
Coastal Pollution Control Series, 1982	Introduced by CPCB to keep a track of data concerning marine pollution in coastal regions.
Environment Protection Act, 1986	Coastal Regulation Zones were announced for the first time under this act in 1991.
Coastal Regulation Zone, 1991	Explicitly provides protection to Marine life from illegal construction, protection of backwaters etc. Also forbids extraordinarily agricultural activities within 500m. of coastal regions.
Deep Sea Fishing Policy, 1991	Provided for the foreign fishing activities only beyond the 12 nautical miles and cancelled the licenses of companies related to fishing in deep seas and operating as joint ventures.
Coastal Ocean Monitoring and Prediction System, 1991	Evaluation of the healthiness surrounding the marine water and provisions concerning tackling of pollution related issues.
National Oil Spill Disaster Contingency Plan (NOSDCP), 1993	To prevent the coastal areas from the spill caused by oil spilling process and preservation of ocean water from unpleasant coatings formed by discharge of oil.
National Environment Tribunal Act, 1995	Imposition of penalties and fines for those who indulge in the marine destruction activities.
UNCLOS Treaty	An agreement initiated to deal with the issues related to oceans and seas through legislative framework and mutual coordination of different nations.
Coastal Zones Management Plans, 1996	Supreme Court directed the coastal state

	government to enact the coastal zones management plans for their respective states.
National Environment Appellate Authority Act, 1997	To secure lucidity and answerability concerning fluid execution of development programs related to environment.
Turtle Exclusion Device, 1998	Odisha High Court pronounced that it is obligatory for fishermen to have turtle exclusive devises in their vessels.
Integrated Marine and Coastal Area Management, 1998	Specific standard schemes for coastal areas around Goa, Chennai and Gulf of Kutch.
DOD Program for Evaluating Marine Creatures Beyond 70m. Under Sea Water, 1997-2002	Introduced under Ninth Five Year plan for better evaluation of resources found under the deep sea areas.
Biodiversity Act, 2002	To ensure the protection of biodiversity including flora and fauna surrounding the marine water.
Automated Ocean Pollution Observation System, 2018	To report the mechanical and preprogrammed data on marine pollution encircling Indian oceans.

### Judicial Response to Marine Pollution in India

The Supreme Court of India and the National Green Tribunal ('NGT') are always praised for their efforts in the direction of conservation of the environment and ecological balance. Indian coastal and marine lives are a few of the facets of the environment which have been safeguarded through the guidelines and directions given by the Apex Court in its formidable rulings. In this direction, the first judgment pronounced was *Enviro Legal Action v. Union of India*,<sup>13</sup> wherein the Court emphasized on the enactment of the Coastal Zone Management Plans by the State Governments to secure the preservation of coastal regions in the country. The Court also pronounced that the contravention of any environmental law after its enactment is more unfavorable than the non-enactment of law at all because it leads to the state of insurgence in the civilized society. *S. Jagannath v. Union of India*,<sup>14</sup> was the other pronouncement of the Court which highlighted the adverse effect of the prawn farming

<sup>13</sup> (1996) 5 SCC 281.

<sup>14</sup> (1997) 2 SCC 87.

industries on the marine environment around the coastal regions of India. The Court completely proscribed the prawn farming culture to carry their business encircling the coastal regulation zones of India. In *Vaamika Islands v. Union of India and Others*,<sup>15</sup> the Court ruled out that certain buildings that have been constructed beside the islands located in the 'Vembanad Backwaters of Kerala' do not come under the ambit of Coastal Zones Regulation of 1991 and thus ordered them to be demolished by Court order. In the case of *Samita Mehta v. Union of India*,<sup>16</sup> the NGT came out with a welcoming decision in a case that arose out of a petition filed by an environmentalist named Samita Mehta on the issue of marine contamination caused by the accidental sinking and submerging of ships in the oceans which gives rise to the harmful oil coatings on the surface of the water and affects marine ecosystem to a larger extent. The Hon'ble Court in this judgment imposed a heavy fine of Rs. 100 Crores on the respondent for his act of negligence, by invoking the 'Polluter Pays Principle' which was first introduced in the Stockholm conference in 1972,<sup>17</sup> and ascertained by the court in many cases including *Indian Council of Enviro Legal Action v. Union of India*,<sup>18</sup> *Research Foundation for Science Technology v. Union of India and Anr.*,<sup>19</sup> *Vellore Citizens Welfare Forum v. Union of India and Ors.*,<sup>20</sup> *A.P. Pollution Control Board*,<sup>21</sup> and *Subhash Kumar v. State of Bihar and Others*.<sup>22</sup> In the case of *Ms. Betty C. Alvares v. State of Goa and Others*,<sup>23</sup> the Court entertained the petition filed by a foreign national on the issue of the illegal construction in the coastal areas of Candolim Beach, Goa. The Court accepted the petition by ruling out that in environmental matters, petitions can even be made by the non-citizens as 'Right to Health and Environment' directly comes under the umbrella of Article 21 of the constitution which cannot be denied even to a non-Indian.

The following guidelines were proposed by the Court in the aforementioned judgments:<sup>24</sup>

- Preservation, perpetuation, and maintenance of the environment are the fundamental essence behind the enactment of Indian Environmental Law, and authorities empowered

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<sup>15</sup> (2013) 8 SCC 760.

<sup>16</sup> Original Application No. 24 of 2011, National Green Tribunal of India.

<sup>17</sup> Stockholm Declaration of The United Nations Conference on The Human Environment, 1972; and The Rio Declaration on Environment and Development, 1992.

<sup>18</sup> 1996 SCC (3) 212.

<sup>19</sup> Writ Petition (Civil) 657 of 1995.

<sup>20</sup> Writ Petition (C) No. 914 OF 1991.

<sup>21</sup> *A.P. Pollution Control Board v. Prof. M. V. Nayudu (Retd.) & Others*, Appeal (Civil) 368-371 of 1999.

<sup>22</sup> 1991 SCR (1) 5.

<sup>23</sup> Misc. Application No. 32 of 2014 (WZ).

<sup>24</sup> Shibani Ghosh, Supreme Court's Guiding Principles for Coastal Regulations in India, *available at*: <https://cprindia.org/news/6240>.

under the acts must always make an endeavor to achieve the goal of environmental sustenance in reality.

- The decision-making authorities concerning the issue of environmental protection must always adhere themselves to the knowledge acquired through specified experts and must provide pellucid reasons behind their decisions.
- The government must not use its discretionary powers in an arbitrary manner so as to assuage the provisions defined under environment-specific regulations.

### **Conclusion**

The Government of India and the Judiciary both have taken considerable measures to combat the pollution and contamination surrounding marine life in India. The Ministry of Earth Sciences has also devised ways to accumulate automated scientific data on the various facets encircling the oceanography. What is more urgently needed, however, is to create awareness concerning a well-coordinated harmonization between the haleness and soundness of the marine ecosystem and the anthropogenic actions of humans. A robust and fit marine ecosystem essentially requires an integrated modus operandi and approach from all the sectors of government as well as common people, who are responsible for causing the dismantling and lopsidedness in the marine structure of India.

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## PLASTIC WASTE MANAGEMENT FOR PREVENTING AQUATIC POLLUTION

Romi Kumari\*

### Introduction

It will not be out of place to mention that plastic has become a necessary part of our lifestyle and its use is increasing day by day. However, it is also well known that plastic comes lowest in the table of biodegradability as it takes 500-1000 years to biodegrade.<sup>1</sup> As such, it is the highest pollutant of our environment and especially the water bodies where it eventually lands as waste.

In the year 2017, the Federation of Indian Chambers of Commerce and Industry ('FICCI') submitted its data on plastic waste production in India. Its report, based on a micro perspective, revealed that the per capita consumption of plastic by an Indian is around 11 kg (24 pounds) matched with the USA, where it is the global maximum at 109 kg. The global average is informed as about 28 kg. FICCI also states that the government estimates this consumption to increase to 20 kg by 2022.<sup>2</sup>

In so far as the Indian rivers are concerned, the total length of Indian rivers combined is around 14000 km.<sup>3</sup> As per a report of the United Nations, the Indus River carries 164,332 tons of plastic debris into the ocean, whereas the Meghna-Brahmaputra-Ganges, which is considered to be the world's highest quantum of plastic debris, carries a whopping 72,845 tons to the ocean.<sup>4</sup>

Therefore, it becomes the need of the hour to effectively manage plastic waste in water bodies. In so far as the measures for tackling the problem is concerned, in the year 1982, the United Nations Convention on the Law of the Sea ('UNCLOS'), decided on a global standard to enable countries to frame necessary laws to protect the marine life from pollution. Ensuing this, the Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime

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\* Fifth Year Student, B.A., LL.B. (Honours), Symbiosis Law School, Hyderabad

<sup>1</sup> Bernan M. Bass and Paul, "Plastic waste in the Aquatic Environment: Impact and Management" 2 *ESPSD* 1 (2018).

<sup>2</sup> Bodhisattva Ganguli, "Five things to know about plastic waste in India" *Economic Times*, Oct. 03, 2019.

<sup>3</sup> Emily Mel, "Plastic pollution solutions: emerging technologies to prevent and collect aquatic plastic pollution" 144(1526):106067 *Environ. Int.* 154 (2020).

<sup>4</sup> *Ibid.*

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Zones Act was enacted in 1976 to empower the Indian government to take measures to protect marine life. Additionally, the Plastic Waste Management Rules, 2016 has been formulated, but has not been successfully implemented.

The present research, therefore, shall examine the problem of plastic pollution into water bodies. This research shall also try to find the extent to which the awareness of the hazards of plastic usage is recognised by the various wings of governance and judiciary. Further, ways in which the water-based ecosystem can be saved with the enhanced formulation and implementation of laws will be discussed. In addition, this research shall attempt to assess the level of implementation of the preventive as well as curative laws and reforms in this regard. Lastly, the paper would identify the lacuna in the present laws and will suggest ways of effectively managing plastic waste.

### **Plastic Accumulation and Legislative Remedial Approach**

India is known for its rich natural heritage with many rivers and water bodies. Since ancient times, civilisation existed near banks of river such as the Brahmaputra, Ganga, Narmada, and Cauvery for easy availability of drinking water, irrigation and also for transportation. In *Mohd Salim v. State of Uttarakhand*,<sup>5</sup> the river Ganga was held to be a legal entity.

Plastic, being a synthetic polymer, is used for making a variety of products such as packaging, construction work, equipment, and electronics. Moreover, it is cheap, light in weight and malleable, due to which it became an essential part in modern society. As a consequence, with the increase in population and modernisation, there has also been an increase in the usage of plastic. However, it was realised that this led to the increased disposal of plastic waste in river water, which resulted in water pollution. Further, with the increase in industrialisation, chemical waste, which included plastic waste, was directly or at times, indirectly discharged into river water. It is pertinent to note that the absence of adequate disposal mechanism has resulted in disposal and accumulation of plastic waste in the water bodies. It is even resulting in the scarcity of potable drinking water.

Marine life is most affected by the plastic waste. Lamentably, plastic waste can be added in the aquatic bodies in several ways. These include but are not limited to improper waste

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<sup>5</sup> (2017) SCC Online Utt 367.

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disposal mechanisms which allow plastic waste from the land to flow through sewers to get to the rivers or oceans. Industrial effluents containing plastic waste discharged into water bodies, is also a significant contributor.

Alarming, a toxin in plastic named 'Diethylhexyl Phthalate' (DEHP) fatally harms marine life due to indigestion and gives rise to health hazards such as cancer and congenital disabilities.<sup>6</sup> Besides, plastic possesses the characteristic of a sponge as it absorbs toxins even from its surroundings and contaminates water bodies with excessive toxins. As a result, these toxins enter the food chain, thereby disturbing ecosystems. Further, unsustainable travel and tourism industries, especially near water bodies, add to the plastic flow. Interestingly, plastic waste also concerns tourism as it reduces the aesthetic value of tourist places, thereby affecting the economic conditions. Due to the aforementioned factors, the accumulation of plastic waste in water bodies results in the death of marine animals due to suffocation. However, not only do these wastes deteriorate marine life but also have an adverse impact on the climate by contributing to global warming.

The first legislative attempt for regulating plastic waste in India was with the formulation of the Recycled Plastics Manufacture and Usage Rules, 1999. It intended to regulate packaging of food products in plastics and was later replaced by the Plastics (Manufacture, Usage and Waste Management) Rules, 2009. However, when the issue of plastic continued to increase, the Plastic Waste (Management and Handling) Rules, 2011, was enacted.

Subsequently, the Plastic Waste Management Rules, 2016, replaced Rules of 2011. It aimed at making every citizen accountable for developing a proper waste disposal mechanism. For instance, a monthly charge of 4,000 rupees is imposed on merchants who use plastic. However, owing to the pressure exerted by businesses, the government was forced to omit the stringent rule. It is also pertinent to note that producers and importers responsible for generating plastic waste in India were required to pay a certain fee to ULBs, which was to be utilised for managing plastic waste under the principle of 'Extended Producers Plastic Products'. Recently, Plastic Waste Management (Amendment) Rules 2021 has been proposed, which aims to ban thermocol, ice-cream sticks, plastic bags etc. and added a few

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<sup>6</sup> Felicia Coleman, "Ingestion of plastic pollutants by aquatic birds" 34 *NOAA* 385 (2018).

new definitions.<sup>7</sup> However, these rules and legislations are not of much use and relief, unless people themselves pledge to avoid plastic completely.

There have also been significant judicial developments around managing plastic waste. Intriguingly in *Avani Mishra v. UOI*,<sup>8</sup> the National Green Tribunal ('NGT'), on 8<sup>th</sup> January, 2021, included even plastic pens within the purview of plastic waste under Rule 3(o) of the Plastic Waste Management Rules, 2016. In the case of *Dharampal Satyapal Ltd. v. Deputy Commissioner of Central Excise*,<sup>9</sup> the Court directed the manufacturers of gutkha, tobacco and pan masala to refrain from using plastic for packaging and directed the government to ensure effective implementation of same.<sup>10</sup>

In the recent case of *Him Jagriti Uttaranchal Welfare society v. UOI*,<sup>11</sup> the NGT directed the Food Safety and Standards Authority of India, Central Pollution Control Board of India and Ministry of Environment, Forest and Climate Change to take effective steps towards the management of plastic waste in India and for furnishing a report accordingly with a prescribed time period. Even the judiciary has attempted to protect marine life from aquatic pollution which includes plastic waste. In *Karnail Singh v. State of Haryana*<sup>12</sup> marine species were held to be legal entities and every Indian citizen was to “act as the guardian who has to protect such animals”.

### **Precautionary Measures Undertaken for Management of Plastic Waste**

Marine plastic pollution is primarily caused due to accumulated and mismanaged waste in landfills. Sometimes, this waste enters directly into the ocean, while other times it enters oceans through rivers. There are also instances of smaller particles of plastic waste entering aquatic ecosystems in the form of vehicle tyres. Alarmingly, polymer fibres, while being washed from clothes, in addition to micro beads in the cosmetic products, also enter these ecosystems.

Owing to the surge in plastic waste, several attempts were made to manage and prevent

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<sup>7</sup> Jayant Singh, “Plastic Waste Management Laws in India” SSRN (2010).

<sup>8</sup> (2020) SCC Online NGT 832.

<sup>9</sup> (2015) 8 SCC 519.

<sup>10</sup> World Wide Fund for Nature (WWF International), “Tackling marine plastic pollution” (2019).

<sup>11</sup> (2019) SCC Online NGT 1780.

<sup>12</sup> (2019) SCC Online P&H 704.

plastic waste from entering into water bodies. Narendra Modi, the Prime Minister of India, urged people to avoid single use plastic.<sup>13</sup> Accordingly, a nationwide movement was initiated throughout India to shun plastic waste. Even the Lok Sabha imposed a ban on the usage of non-reusable plastic water bottles within the parliament itself from 19th August 2019.<sup>14</sup>

Further, Dr. R. Vasudevan of Thiagarajar College of Engineering, Madurai, was reported to have conceived a special method of plastic waste management, where hot gravel was amalgamated with plastic waste and was added to the molten asphalt.<sup>15</sup> This mixture was then used for the construction of the road which not only saved a lot of money, but also provided with stronger, long-lasting, and waterproof roads. However, Tamil Nadu was the only state to start such a practice.

Besides, a lot of efforts are being taken at the national level to prevent dumping of plastic into the aquatic bodies not only by the government and judiciary but also by the corporations. Adidas, since 2015, is using plastic waste as a readily available resource for manufacturing sportswear, which is a big step towards achieving sustainable development. It embarked on a venture with an environmental organisation by the name of 'Parley for the Oceans', to turn plastic wastes collected from the oceans into sportswear- known as the 'Adidas Parley' collection. Further, United Nations Development Programme, in collaboration with Hindustan Coca Cola Beverages Private Limited, Hindustan Unilever Limited, and HDFC Bank, is aiming to move towards a circular economy to build a system which would reduce the potential impact of plastic waste in the environment in India.

Most countries are also laying stress over the collection and management of plastic waste to a great extent. Some countries are also adopting measures to dispose of plastic waste in a phased manner. There is also a ban on Styrofoam products as well as micro-beads in some nations. China has also imposed a ban on the import of plastic products. Hence, we see that despite so many efforts, techniques and measures being adopted by different States, the issue of plastic waste accumulation in aquatic bodies remains unresolved.

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<sup>13</sup> *Supra* note 3.

<sup>14</sup> *Supra* note 7.

<sup>15</sup> Cheuk-Fai Chow, Winnie Wing Mui So, *et. al.*, "Plastic waste problem and education for plastic waste management", in Siu-cheung Kong, Tak-Lam Wong, *et. al.* (eds.), *Emerging Practices in Scholarship of Learning and Teaching in a Digital Era* 125-140 (Springer Singapore, 2017).

### **Surge in Plastic Waste in India amidst COVID-19**

As a precautionary measure to prevent the spread of COVID-19, the compulsory use of personal protective equipment by frontline workers, medical mask and gloves by medical staff and health workers, as well as citizens have been implemented. However, the indiscriminate disposal of PPE suits, face masks, face-shields, and hand sanitiser bottles have increased the use of single use plastics immensely. This has evolved as an environmental crisis. The then bio-medical waste has become household waste, and these ultimately end up in water bodies via drains and canals.

Moreover, with safety concerns related to shopping amidst the pandemic, consumers now prefer fresh food packaged in plastic containers to avoid food contamination, and this has also increased the usage of plastic bags to carry groceries. Further, according to Zomato CEO, Deepinder Goyal in 2018, "around 22000 tonnes of plastic waste were getting added up due to food delivery orders every month in India".<sup>16</sup>

Few Indian municipalities are also implementing flawed medical waste disposal and management system, such as burning and landfilling strategies. This eventually leads to the non-accomplishment of goals such as the circular economy and sustainable development. Hence, in the wake of the ongoing pandemic, people are more dependent upon online delivery of food in disposable plastic. This is leading to an increase in the plastic waste and is yet another challenge amidst COVID-19.

### **Judicial Standpoint on Management of Plastic Waste**

The judiciary has always addressed the issue of plastic waste and the need for its management. At many instances the judiciary has interpreted Article 21, 48, and 51(g) of the Indian constitution to include right to clean water and environment. Besides this, the Supreme Court of India has been issuing important directions. For instance, in *Narmada Bachao Andolan v. Union of India*,<sup>17</sup> the Court held the right to clean water as one of the fundamental rights enshrined under Article 21 and opined that the right to clean water is the basic necessity of the human life and hence, cannot be denied.

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<sup>16</sup> A. Nagarajan, "War on Plastic Waste" 50 *EPW* 10 (2020).

<sup>17</sup> (2000) 10 SCC 664.

As a matter of fact, even the Indian courts, exercising their suo moto powers, have been endeavouring to keep a check on the factors of such plastic waste in water bodies. A classic example of how the judiciary has been trying to prevent pollution and promote sustainable development is a set of two judgements passed by the Kerala High Court in 2 different cases. First, in *Kerala Bottled Water Manufacturers Association v. State of Kerala*,<sup>18</sup> the Kerala High Court upheld the ban imposed by the State of Kerala on single-use plastic bottles of capacity below 500 ML. Second, the same High Court, in *Dr Vasundhara Menon and others v. Union of India*,<sup>19</sup> decided on 16th February, 2021, quashed a blanket ban on polythene carry bags observing that such ban is not justified as compostable plastic carry bags do not cause any hazard.

The Delhi High Court had laid emphasis on the plastic waste management in the case of *All India Plastic Industries Association and others v. Government of NCT of Delhi*<sup>20</sup> and held that even though it is not possible to impose a blanket ban on the usage of plastic, the government, concerned authorities and plastic manufacturers should take measures to encourage and propagate the use of alternatives to reduce plastic waste.

*MC Mehta v. Union of India*<sup>21</sup> is one of the significant cases dealing with river pollution, particularly in the Ganga. The issue was pollution caused in the river Ganga which is one of the most sacred rivers through industrial effluents, and solid waste that includes plastic. Therefore, the Court held that the need of the hour is to protect river Ganga from pollution and also highlighted Article 48-A, which mandated the State to protect and safeguard the marine ecosystem. The Court also referred to Article 51-A, which inflicts a fundamental duty upon the citizens to revamp the environment, which includes the aquatic ecosystem.

In another case of *Subhash Kumar v. State of Bihar*,<sup>22</sup> the Court held that the right to life includes the “right to enjoyment of pollution free marine environment”. Another celebrated judgement is *Karuna Society for Animals v. Union of India*,<sup>23</sup> wherein a petition was filed for protecting animals from ingesting plastic waste. The petitioner also asked the Court to issue

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<sup>18</sup> (2020) SCC Online Ker 1236.

<sup>19</sup> W.P. (C). No. 4291 of 2020.

<sup>20</sup> (2009) SCC Online Del 1914.

<sup>21</sup> *MC Mehta v. The Union of India*, 1987 SCR (1) 819.

<sup>22</sup> AIR 1991 SC 420.

<sup>23</sup> (2016) 14 SCC 303.

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guidelines in this regard under section 5 of the Environment (Protection) Act, 1986.

In *All India Plastic Industries Association v. Govt. of Delhi*,<sup>24</sup> a petition was filed on the issue of the threatening impact of plastic waste in Delhi. As a result, the Court directed the State Government, the Delhi Pollution Control Committee, and all public authorities/local bodies to prohibit the selling, storing, and usage of plastics at commercial outlets. The Court also directed the aforementioned authorities to impose a fine of 5000 rupees of persons possessing or using plastic waste.

Hence, courts across India, through various judicial precedents, have made an attempt to create awareness on the harmful impact of plastic waste on the marine ecosystem and human life. In addition, the judiciary, on many occasions, have issued guidelines to authorities to effectively manage plastic waste. However, such guidelines are required to be implemented to prevent plastic waste accumulation.

### **Suggestions and Conclusions**

Many new laws, amendments, judicial decisions, and interpretations vis-a-vis plastic waste management have emerged in the recent past. However, none of them was implemented effectively. It is pertinent to note that although Extended Producers Responsibility was added to the Plastic Waste Management Rules of 2016, it has not been successful since it lacks necessary details for the plastic waste management mechanism.

Even the World Wide Fund for Nature is of the opinion that the time has come when every country should come forward for negotiation on the new legally binding agreement for resolving the issue of aquatic plastic pollution. It is well settled that this issue cannot be resolved overnight. Hence, a consistent effort has to be made by everyone to tackle plastic pollution.

The researcher strives to suggest some of the ways in which plastic waste can be managed and reduced to a minimum. *First*, there is an urgent need to educate and make people aware of the ills of plastic waste in river water and its management. *Second*, the government is required to plan an adequate and proper mechanism for plastic waste disposal. *Third*,

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<sup>24</sup> (2009) SCC Online Del 1914.

stringent penal provisions must be in place to prevent aquatic pollution through plastic waste. *Fourth*, the practice of recycling and reusing should be adopted at a larger scale in order to reduce the environmental impact of plastic waste due to open landfills or burning of waste. The methods of replacing plastic product with other non-plastic product should be adopted. For instance, the usage of jute or cloth bags must be recommended to put a stop to the usage of polythene bags. *Fifth*, popular personalities and influencers such as celebrities, politicians, and sportspersons should make an attempt to spread awareness about the menace of plastic waste.

On every occasion of imposing a ban on plastic usage and plastic products, there is a conflict between the plastic manufacturing industries and the government. However, unless the government and research agencies work in collaboration with these industries to reduce micro-plastic waste with adequate disposal mechanics, it would be difficult to achieve zero plastic goals even after a decade.



**Center for Environmental Law,  
Advocacy and Research (CELAR)**  
National Law University and Judicial Academy, Assam  
Hajo Road, Amingaon, Guwahati, Assam - 781031