
GREEN CRIMINOLOGY IN INDIA: DECIPHERING ENVIRONMENTAL OFFENSES AND LEGAL RESPONSES

Maitheli Hazarika, Amity Law School Noida, Amity University, Noida, Uttar Pradesh

ABSTRACT

With the ever increasing of environmental challenges, especially in India like pollution, climate change, deforestation, water scarcity and habitat destruction, it becomes crucial to understand and study green criminology as this field helps in getting to know the criminal activities that contribute to these problems and its impact on the environment and ecosystem. Green criminology is a field of study in environmental law which focuses on the crimes committed against the environment. This subject examines and studies as to how human activities can lead to environment degradation and thereby inflicting harm to the inhabitants as well. This research paper delves deep into the arena of green criminology, exploring the understanding of the concept. Then gradually explaining the need for studying green criminology, while slowly entering into the realm of Indian context. The following chapter examines the environmental crimes, first explaining the concept of the same. Further on is the input of Indian take and efforts in making various key legislations and Acts along with modifications dealing with various environmental factors and crimes. The subsequent section meticulously examines the consequences and legal options accessible, incorporating both constitutional and criminal solutions, with a particular focus on environmental violations. The following chapter thoroughly analyzes the far-reaching effects of environmental crimes on biodiversity, ecological balance, deforestation, and contamination of air and water resources. The concluding chapter navigates the intricacies of legal obstacles and mechanisms for enforcement, presenting a comprehensive view of the legal structure, impediments, and India's participation in global treaties and agreements pertaining to environmental safeguarding.

CHAPTER 1

GREEN CRIMINOLOGY

What is green criminology?

Before entering this rabbit hole, we first need to understand what exactly green criminology is, what is the meaning and the ideology of creating this field. When we investigate the conventional crime, it deals with crime against person or its reputation or property, which covers almost the focus of the country.

Let's go back to 1990, it was the ecofeminism, environmental racism and ecological socialism which made the foundation of the coining of term 'green criminology'.¹ In simple words, green criminology broadens the field of criminology and includes the harm done to the environment.

As green criminology has not been given the proper platform to be specifically being addressed, all these years, the efforts have been to do the same by creating certain models.² The word 'environment' makes up a very huge world within itself. Therefore, to study criminology in this, first environment must be deciphered. The way environmental harm is defined and addressed is influenced by a number of factors, including human contact with the environment, the interdependence and interrelatedness of ecosystem components, and the economic and political model that a nation chooses.

In its most general sense, green criminology involves examining the acts that cause damage to humanity, the environment (including outer space), and non-human animals. These acts are perpetrated by influential entities like governments, multinational corporations, and military organizations, as well as by everyday individuals.

Green criminology encourages inclusivity and is regarded as a wide outlook as opposed to a particular theory. A number of sub-disciplines, including atmospheric justice, species justice, and astro-green justice, have arisen under the general heading of "green criminology," each concentrating on a particular facet of environmental crimes.³ So, inclusivity and wideness of

¹ M.J, Lynch, *The Greening of Criminology: A Perspective on the 1990's*

² A. Brisman, and, N. South *THE GROWTH OF A FIELD: A SHORT HISTORY OF "GREEN" CRIMINOLOGY*(2020a).

³ Jack Lampkin, *UNITING GREEN CRIMINOLOGY AND EARTH JURISPRUDENCE*, 22 (2021)

green criminology can become both its weakness and strength at the same time. Now, for example, two different research, one on poaching of animals resulting in extinction of species done at international level and the other being components of air pollution emitted by cars in Japan can come under the aspect of green criminology. It is nearly hard to extract general principles from these two quite different studies. Nonetheless, a more comprehensive understanding of the variety of environmental damages can be recognized. In the first instance, specialization is at play, and in the second, air pollution is being caused by the vehicle sector. Thus, one way to think of green criminology is as a forum for interested parties to discuss and exchange ideas outside of the field of critical criminology.

Some green criminology specialists believe that our focus should be on people and organizations who violate environmental regulations imposed by national and international authorities. Primary Green Crimes are the offences that directly break these rules. Furthermore, there are Secondary Green Crimes, which are offences committed by individuals against laws intended to protect the environment.

According to some specialists, whether an activity is unlawful or not, it should be examined from the perspective of green criminology if it negatively impacts the environment. This implies that it would take into account actions that harm the environment even while they are not illegal.

Three primary areas are the focus of green criminology:

Ecological justice: entails assessing our effects on ecosystems, which are composed of both living and non-living components. For instance, it is concerning when mountains, rivers, woods, and the animals that inhabit there are harmed. It's about realising and doing something about the damage humans are doing to the ecosystem.

Environmental Justice: The fair treatment of individuals with regard to environmental issues is the focus of this strand. It examines the differences and diverse effects on a range of groups, including children, the underprivileged, people at risk, and indigenous cultures. Making ensuring that everyone lives in a just and fair environment is the aim.

Species Justice: This component is concerned with the treatment of animals. It deals with cases of animal maltreatment as well as the trade of animals, both legal and illicit. The goal of species

justice is to address problems such as ecocide, which is the taking of human life along with harm to the health of other species. In essence, it's about defending and promoting the welfare and rights of animals.

WHY DO WE NEED TO STUDY GREEN CRIMINOLOGY?

The reason that green criminology matters is that it speaks up for the environment and the natural world. It strives to stop environmental damage and save the planet from it. It hopes to instill in the next generation a new perspective on the world by integrating it with academics.

The emphasis is on eco-justice and embracing an ecocentric viewpoint, which takes into account our interconnectedness with the natural world. Green criminology asks why climate change is still happening if we know it is occurring and is caused by humans. It presents ideas such as ecocide, which refers to the devastation of the environment, and labels certain businesses and people as "carbon criminals."

In addition to studying climate change, green criminology also looks at problems like water theft and plastic contamination in the oceans. It makes a connection between these environmental challenges and more general social problems, and it offers solutions to lessen and prepare for these changes. To put it briefly, green criminology aims to clarify how human behaviour affects the environment and what steps we might take to mitigate those effects.

The notion of green criminology is a relatively recent term, having emerged approximately three decades ago. However, its significance has surged, especially considering its direct relevance to our surrounding environment. The most pressing concern today revolves around the inconspicuous phenomenon of climate change. This pervasive issue is continuously reshaping the planet, with frequent reports of unprecedented superstorms, typhoons, droughts, and floods. The dynamics are fundamentally altering our collective reality. Green criminology steps in to address the activities of industries, particularly in fracking, such as oil and gas companies, which contribute to carbon emissions, resulting in environmental degradation and global warming. Green criminology interprets climate change as ecocide, signifying the destruction of everything cherished and known.

To comprehend the gravity of the current situation and why the intervention of green criminology is imperative, a consideration of pertinent facts and figures is crucial. Additionally,

the chapter delves into the complexities of climate change and the pursuit of sustainable development.

GREEN CRIMINOLOGY IN INDIA

The examination of offenses against the environment constitutes the central focus of the emerging academic field termed "green criminology." Owing to the surge in environmental transgressions, the concept of "green criminology" has witnessed a surge in popularity in India in recent times. In this country, environmental crimes and wrongdoings encompass activities such as illicit wildlife trade, unauthorized mining, deforestation, and pollution. Apart from their detrimental impact on the environment and public health, these activities also result in substantial economic and societal repercussions. A governmental body known as 'The National Green Tribunal' (NGT) has been established in India to grapple with these challenges. The NGT operates a specialized court dedicated to addressing environmental concerns and enforcing environmental regulations. Furthermore, numerous advocacy groups and non-governmental organizations in India are actively engaged in raising public awareness about environmental transgressions and their ramifications.

CHAPTER 2

TYPES AND IMPACTS OF ENVIRONMENTAL CRIMES

Environmental crime pertains to the breach of regulations designed to safeguard the environment and human well-being. These regulations oversee the quality of air and water, as well as specify the legally permissible methods for waste and hazardous material disposal. Perpetrators, whether individuals or corporations, may be implicated in white-collar crimes when found in violation of environmental laws.

Offenses against the environment and wildlife encompass actions that result in harm to the surrounding environment and its wildlife. These offenses are categorized within the realm of organized criminal activities globally, ranking as the fourth-largest category of organized crime.

Environmental crime poses a significant threat not only to the current generation but also to the well-being of future generations, encompassing humans, animals, and plants.

The term 'environmental crime' lacks a universally agreed-upon definition, often subject to interpretation based on specific circumstances. Its conceptualization stems from harmful actions or omissions that violate environmental laws.

As outlined by the United Nations Crime and Justice Research Institute, 'Environmental Crimes' constitute a wide range of illegal activities, including the trafficking of wildlife, smuggling of substances harmful to the ozone layer, unlawful trade in hazardous waste, illicit, unregulated, and unreported fishing, as well as the illegal logging and trade of timber. Legally, an act or omission qualifies as an 'environmental crime' only if it:

1. Causes direct or indirect harm to the environment, and
2. Is explicitly prohibited by the law.

Environmental crime encompasses a broad spectrum of transgressions leading to detrimental consequences for the environment and human well-being. These infractions span from administrative or record-keeping lapses to the illicit discharge of pollutants into the environment. Various forms of environmental crimes include, but are not confined to, the following: Oil spills; Unreported fishing; Poaching; Destruction of wetlands; ETC.

STEPS TAKEN BY INDIA

In lieu of addressing various environmental problems and issues, the country has taken various steps regarding production of initiatives that helps curb these problems. By the steps, it includes the Act that have been passed, which are: National Green Tribunal Act, 2010, The Air Act, 1981, The Water Act, 1974, The Environment Protection Act, 1986, The Wildlife Protection Act, 1972, Hazardous Wastes (management, handling and trans-boundary) Rules, 2008, The Forest Conservation Act, 1980, Public Liability Insurance Act, 1991, Biological Diversity Act, 2002, Noise Pollution (regulation and control) Act, 2000.⁴

Now, let's see what these Acts cover –

1. The Air Act, 1981

⁴ Mansi Dagrass, "Crime Against Environmental Law in India" (2021).

- In order to avert the occurrence of air pollution
- To regulate and mitigate air pollution
- To designate Central and State bodies for the aforementioned objective
- To address issues pertaining to air, its prevention, and regulation.

2. National Green Tribunal Act, of 2010

- To ensure the prompt and proficient resolution of concerns regarding environmental safeguarding.
- To offer restitution and redress for harm inflicted upon victims, whether to their property or person.
- To annul two parliamentary acts enacted in 1995 and 1997, respectively.
- To address additional matters concerning the environment.

3. The Water Act, 1974

- In order to avert the occurrence of water contamination
- To regulate and mitigate water pollution
- To designate Central and State bodies for the aforementioned objective
- To impose penalties on those who breach the legislation
- To address issues pertaining to water, its prevention, and regulation.

4. The Wildlife Protection Act, 1972

- To forbid the pursuit of designated wildlife, avian species, and flora.
- To establish the administration of national parks, wildlife reserves, and sanctuaries.
- To regulate the trade and business activities associated with wildlife and its derivatives.

5. Environment Protection Act, 1986

- To adhere to the 26 tenets outlined in the Stockholm declaration of 1972.
- To implement stringent measures against individuals causing harm to the environment.
- To empower the central government to take resolute action in preventing environmental degradation.

SIGNIFICANT MODIFICATIONS IN INDIAN ENVIRONMENTAL LEGISLATION

India's domestic environmental laws have undergone notable and recent amendments, impacting both relaxation and imposition of restrictions. The key amendments are outlined below:

1. Environmental Impact Assessment Notification (2006):

- Before the amendment in 2006, the Environmental Impact Assessment notification brought about a balance between relaxation in infrastructure development and heightened environmental risk. Previously, nearly all significant projects required advanced government permission. Post-amendment, projects covering an area less than 50,000 square meters no longer necessitate advanced government approval, contributing to a more streamlined process.

2. Coastal Regulation under the Environment Protection Act (1996):

- The 1996 amendment to Coastal Regulation under the Environment Protection Act aimed at fostering tourism growth in India. However, this came at the expense of the environment, as the government lifted the requirement for advanced permissions to initiate projects in coastal regions.

The above-mentioned amendments reflected a shift in government policy towards relaxing certain restrictions. Conversely, the subsequent amendments aimed to ensure effective regulation in environmental policies:

3. Motor Vehicles Act (Amendment) 2019:

- Focused on escalating penalties for violations of motor vehicle laws by 100%, this

amendment significantly impacted adherence to road laws. The increased fines, such as raising penalties from Rs. 100 to Rs. 1000 for the same offense, prompted better compliance and the adoption of environmental-friendly measures in vehicles. However, some states in India later amended their laws, reinstating nominal fines for political and social advantages.

4. Factories Act of 1987:

- Enacted in the aftermath of the Bhopal gas tragedy, the Factories Act of 1987 introduced stringent regulations for factories, recognizing their significant role in environmental degradation. The legislation emphasized strict oversight to ensure adherence to basic standards, preventing environmental harm caused by factories.

PENALTIES AND LEGAL RECOURSE

This section of the document delves into how the law addresses environmental issues by meting out penalties to wrongdoers. It focuses solely on the domestic laws in India utilized for punitive measures. The remedies provided by the law can be categorized into three facets: Constitutional, Civil, and Criminal.

1. Constitutional Remedies:

42nd Constitutional Amendment:

- The 42nd Constitutional Amendment introduced two significant changes (48-A and 51-A) concerning environmental protection.

Article 48-A: Positioned in Part IV of the Indian Constitution, under the Directive Principles of State Policy, it mandates the government to safeguard forests, wildlife, and the environment. The judiciary has the authority to impose financial penalties on offenders, but there is an emerging trend towards utilizing imprisonment as a punitive measure based on the gravity of the offense.

Article 51-A: Encompassed in Part V of the Indian Constitution under fundamental duties, this amendment added duty (g), emphasizing the obligation of citizens towards environmental protection. Individuals are duty-bound to preserve rivers, wildlife, and display compassion towards all living beings.

Article 21: This constitutional provision, dealing with the right to life and personal liberty, has been expansively interpreted. In the case of *M.C Mehta vs. Union of India*, it was ruled that individuals have the right to a safe and unpolluted environment guaranteed by the government. This right extends to both citizens and non-citizens of India. Offenses causing harm to the environment leading to or potentially leading to death can be charged under the Indian Penal Code as attempted murder.

2. Criminal Remedies:

The Indian Penal Code outlines various sections related to public safety, public health, public nuisance, and negligence, serving as criminal remedies:

- Sections 268 to 294-A
- Sections 269-271: The spread of infectious diseases is deemed a public nuisance and a criminal act.
- Section 277: Addressing water pollution prevention.
- Section 290: Smoking in public is considered a crime.
- Section 426, Section 430, Section 431, Section 432: Addressing pollution caused by mischief.

All the mentioned crimes are of a public nature, meaning they are offenses against the state. Remedies involve financial sanctions, imprisonment, or a combination of both, contingent on the jurisdiction of the courts and the severity of the offense.

The Five Grave Environmental Offenses Include:

Illegal Wildlife Trade

Ranked as the third-largest illicit trade globally, following drug and arms trafficking, illegal wildlife trade poses a significant threat to the survival of the world's biodiversity. While several actors participate in this crime, buyers play a pivotal role, and the cessation of supply and exorbitant prices on the black market would lead to the eradication of this offense. Interestingly, the more endangered a species is, the higher its market value. Highly sought-after

species include tropical birds (parrots, macaws), arachnids (specific tarantula species), primates (capuchins, chimpanzees, lemurs), and others. Beyond selling these animals as pets, there are instances of more severe crimes such as the trafficking of elephant or rhinoceros ivory for ornamental purposes or traditional Chinese medicine.

Unregulated Logging

The primary catalyst for deforestation, unregulated logging for wood, furniture, or agricultural purposes poses a severe threat to the environment. The destruction of the Amazon, the world's largest rainforest, accelerated in 2013, with a 29% surge in deforestation, as reported by the Brazilian government. The uncontrolled harvesting of trees for various purposes stands as a critical environmental crime.

Mismanagement of Electronic Waste

In so-called developed nations, an estimated 50 million tonnes of electronic waste, including computers, TVs, mobile phones, and appliances, are generated annually. Alarming, up to 75% of this electronic waste is believed to exit official disposal systems, with a significant portion being illicitly exported to regions like Africa, China, or India. Notably, locations such as Ghana's waste dump receive substantial electronic waste shipments from Western countries, highlighting a concerning trend.

Finning

Specialized vessels capture approximately a hundred million sharks annually, with up to 70 million subjected to the brutal practice of finning. In this trade, the fins are removed from live sharks on the vessel, and a kilogram of shark fin can fetch 600 euros in the Asian market. Beyond the economic aspect, sharks, vital to the oceanic food chain, face significant threats due to this practice.

Dumping in Rivers and Aquifers

Often attributed to companies, factories, and public administrations, this environmental offense involves the improper disposal of toxic waste into rivers, lakes, and aquifers. While some waste is managed in a controlled manner, instances of unregulated release into the environment occur, leading to pollution and detriment to local wildlife. This crime not only results in the death or

illness of the local fauna but also contaminates the surrounding flora through water seepage into the soil, affecting the entire food chain.

IMPACT OF ENVIRONMENTAL CRIMES

1. Diminution of Biodiversity and Ecological Harmony:

- Environmental crimes, particularly the illegal trade in wildlife, play a significant role in diminishing the diverse biodiversity of India. This illicit activity disrupts the delicate balance of ecosystems, putting various species and their habitats at risk. The intricate interdependence between flora and fauna is disrupted, leading to a chain reaction of adverse effects throughout the ecological system.

2. Rising Deforestation and Disturbed Ecological Equilibrium:

- Unregulated logging practices and unlawful encroachments on land contribute significantly to the escalating deforestation challenge in India. The repercussions extend beyond the loss of green cover, triggering a deep-seated disturbance in ecological equilibrium. Disrupted habitats not only endanger diverse plant and animal species but also upset the balance of entire ecosystems, affecting factors ranging from soil health to water retention.

3. Widespread Air and Water Contamination:

- The improper disposal of pollutants into water bodies, stemming from various industrial activities, remains a primary driver of severe water pollution in India. Concurrently, the mishandling and inappropriate disposal of electronic waste compound the environmental crisis by releasing harmful substances into the air. The combined effects reach beyond human health, impacting the broader ecological equilibrium and posing a multifaceted challenge.

4. Compromised Climate Resilience and Global Significance:

- Environmental crimes, notably deforestation and pollution, not only degrade local ecosystems but also compromise India's resilience to climate change. Deforestation reduces the region's ability to act as a carbon sink, exacerbating the global climate crisis. The emission of greenhouse gases from unlawful activities further contributes to the unfolding climate

challenges, with consequences extending globally and affecting weather patterns and climate dynamics.

5. Heightened Vulnerability and Displacement of Indigenous Communities:

- Indigenous communities, deeply rooted in their natural environments, face increased vulnerability due to environmental crimes. Deforestation and pollution often compel these communities to relocate, disrupting age-old traditions and jeopardizing their distinct ways of life. The resulting displacement not only endangers their cultural heritage but also exacerbates social and economic hardships.

6. Public Health Risks and Economic Turmoil:

- The improper disposal of electronic waste and the release of harmful pollutants pose significant risks to public health in neighboring communities. Contaminated water sources and compromised air quality contribute to a range of health issues, including respiratory problems and skin disorders. The long-term consequences also extend to economic challenges, as compromised environmental health affects sectors like agriculture and fisheries, leading to economic instability and difficulties in sustaining livelihoods.

CHAPTER 3

LEGAL CHALLENGES AND ENFORCEMENT MECHANISMS

3.1 Overview

Looking into the condition of the country, the major thing it is lacking is not the legislation, but the enforcement which is at fault. There have been plenty legislations that are already laid down, but still environment is at major threat. Environment not only includes the green part, but everything related to biological, physical and ecological. Environmental pollution has been a constant problem for India, along with other countries of the world; contributing to the global damage. There is a pressing necessity for the efficient, triumphant, and systematically coordinated implementation of the Constitutional mandate and other environmental laws in India. The commendable and innovative role played by the Indian Judiciary and the National Green Tribunal [NGT] is noteworthy in this era.

In response to the stipulations outlined in Articles 48–A and 51–A[h] of the Indian Constitution, numerous Public Interest Litigations have been initiated in the Supreme Court against various industries for their failure to institute adequate pollution control. Legal actions have also been taken against Pollution Control Boards to compel them to adopt appropriate measures for pollution control from an Indian standpoint. Taking responsibility for regulating and preserving the environment is not only a governmental obligation but a duty that every individual, association, society, industry, and corporation must shoulder. Safeguarding the environment and maintaining ecological equilibrium in the Indian context is a collective societal responsibility, a fundamental duty embedded in Article 51–A[g] of the Indian Constitution.

3.2 Legal Framework and Challenges

Looking back to the 70s, arises the invention of Stockholm Declaration happened in 1972, which marked the first ever major effort to the relevance of environment protection at the international level. It helped make a major impact on the states as they individually had to make and approve legislative framework or mandate in order for environment protection.

In India, being one of the pact states of the declaration, helped make the 42nd Amendment Act 1976, which inserted new provisions for environment protection, that are Article 48A and 51A(g), which mainly talked about the state to protect and improve the environment and safeguard forests and wildlife of country, and laying out the duty of the citizens of the country for doing the same and also have compassion for the living creatures.

In addition to the constitutional requirement to safeguard and enhance environmental conditions, a range of legislations is accessible on the matter. However, the legislations most pertinent to our objective are Forest [Conservation] Act, 1980; the Water [Prevention and Control of Pollution] Act, 1974; the Wildlife [Protection] Act, 1972; the Environment [Protection] Act, 1986; the Air[Prevention and Control of Pollution] Act, 1981, etc.

The inception of the Environment Protection Act in 1986 swiftly followed the Bhopal Gas Tragedy. This tragic event involved a significant release of harmful chemical gases from the Union Carbide chemical plant in Bhopal in 1984. The Act is considered a comprehensive

legislation, serving as an umbrella law that addresses numerous gaps in existing regulations. Consequently, a multitude of laws were enacted in response to emerging issues.

The Bhopal disaster underscores the challenges governments face in crafting a timely response to disasters, particularly in situations where poverty rates are high, and both healthcare infrastructure and government resources are severely constrained. This highlights the imperative for private multinational (or public) industries to acknowledge their role in and assume responsibility for the well-being of the environments and communities in which they operate.

Environment (Protection) Act, 1986 (EPA): Enacted to safeguard and enhance the environment, the EPA provides a framework for coordinating central and state authorities established under the Water (Prevention and Control) Act, 1974, and the Air (Prevention and Control) Act, 1981.⁵ The central government is empowered to take necessary measures to protect and improve environmental quality by establishing standards for emissions and discharges, regulating industrial locations, managing hazardous wastes, and safeguarding public health and welfare.

Water (Prevention and Control of Pollution) Act, 1974: This legislation prohibits the release of pollutants into water bodies exceeding specified standards and imposes penalties for non-compliance. The act underwent an amendment in 1988 to align closely with the provisions of the EPA, 1986. It led to the establishment of the CPCB (Central Pollution Control Board), which prescribes standards for preventing and controlling water pollution. At the state level, the SPCBs (State Pollution Control Board) operate under the guidance of the CPCB and the respective state government.

Water (Prevention and Control of Pollution) Cess Act, 1977: This act introduces a levy and collection of a cess on water consumption by industries and local authorities. The objective is to enhance the resources of central and state boards for water pollution prevention and control. The Water (Prevention and Control of Pollution) Cess Rules were formulated in 1978 to define standards and specifications for the type and location of meters that every water consumer must install.

⁵ Afroze Eqbal, "Environmental Legislation" (2022)

Air (Prevention and Control of Pollution) Act, 1981: This legislation establishes ambient air quality standards, methods for controlling and reducing air pollution, prohibits the use of polluting fuels and substances, and regulates appliances contributing to air pollution. The Air (Prevention and Control of Pollution) Amendment Act, 1987, empowers central and state pollution boards to address serious emergencies. The boards are authorized to take immediate measures in such situations and recover expenses from offenders. The amendment also emphasizes the power to revoke consent for non-compliance with prescribed conditions.

The Air (Prevention and Control of Pollution) Rules, 1982: These rules define procedures for conducting board meetings, the authority of presiding officers, decision-making processes, quorum requirements, and the manner in which meeting records should be maintained.

The Wildlife (Protection) Act, 1972: The WPA (Wildlife Protection Act), 1972, provides protection for listed species of flora and fauna, establishing a network of ecologically important protected areas. It empowers central and state governments to declare any area a wildlife sanctuary, national park, or closed area.

The Forest (Conservation) Act, 1980: This act limits the authority of states regarding the de-reservation of forests and the use of forestland for non-forest purposes.

While we investigate the challenges as to the green criminology in India; the first would be the weak link to the enforcement of the legislations, plus there is a shortage of comprehensive framework of environmental laws. Even when there are laws that have been created specifically for environment purpose, the challenge arises in the implementation of the same.

Another major problem or issue that is seen in the environmental laws to be implemented, is the heftiness or rather, the ambitiousness of the provisions. So, rather than focusing on the improvement, often times many companies or businesses just fail to do anything as it is impossible to meet the standards. For instance, if we take an example of net zero pollution for a factory; it is difficult, or rather impossible to do that, nor do they have appropriate equipment or technologies to do that, so they would already get demotivated to even do anything about it.

Then comes the role of the State Pollution Control Boards (SBCBs). It has been seen that the members are mostly from non-technical background, mainly from bureaucratic side. For example, the contrast of Goa and Rajasthan's PCBs can be studied. Wherein, the number of

technical members in Goa's PCB was more than the Rajasthan's; the pollution of Goa is quite less. The lack of technical persons creates a problem, as the pollution or as a matter of fact, any environmental issue cannot be studied.

Now, if we give a student to study, without providing any book; it is obviously useless. Just like that, often, the hinderance which comes in the proper implementation of these laws comes to the lack of relevant tools and facilities. The root problem is the lack of money and the funds for it.

3.3 International Treaties and Agreements – India's involvement

India's involvement in international treaties and agendas has been on the top front; while also looking into the aspect of environmental protection, has marked a relative strong result that we can see. However, the effectiveness of these treaties and laws depends on their implementation and enforcement.⁶ There are lot of laws and international treaties that have been in lieu of environment protection; but the reality is, there is no use of everything if these are not implemented properly, the enforcement mechanisms should be active and efficient. So, the success of the international agendas would only be proven to be triumphant, if the participating states are able to abide by it.

India has been a part of many international treaties; some of them are:

a. Paris Agreement (2015)

Paris Agreement proves to be a very important step towards global climate change, as for the first time 196 nations came together to formulate this for the furtherance of global warming. The focus is to reduce green house gases emission and the promotion of sustainability. In 2020, marking the 5th anniversary of the agreement, held in Glasgow; the Prime Minister of India, Narendra Modi had said that India has reduced up to 21% global emissions as compared to the levels in 2005. The main goal is to keep the increase in temperature well below 2 degrees Celsius, and also ideally limit it to 1.5 degrees as compared to pre-industrial level.

⁶ Dr. Ram Charan Meena, "International Treaties and Law of Environment in India: An Overview" *Research Ambition: An International Multidisciplinary E-Journal* (2021).

b. UNFCCC (The United Nations Framework Convention on Climate Change)

During the Earth, there's an important international treaty which was formed; that is the UNFCCC. The main focus of the treaty is on global warming and climate change. It was found that for any treaty to be implemented properly, global cooperation is needed among all the nations. Important feature of this treaty is the CBDR, that is Common but Differentiated Responsibilities. This tells about the developing and developed nations, that their efforts need to be different in accordance with their developmental state. So, the developed nations will be leading with the influential steps regarding climate change, whereas the developing nations will somewhat be following the former states.

India's commitment is commendable, as it is a signatory to UNFCCC. Annually, there is a meeting which is held, that is called the COP meeting (Conference of Parties), wherein all the nations come together to discuss climate related actions and agreements.

UNFCCC resulted in Paris Agreement, that was formulated in COP21, held in 2015. As stated above, it aims to limit global warming. India has pledged to reduce the dependency on fossil fuels, and rather expand the focus on renewable energy.

c. Montreal Protocol

The Montreal Protocol on Substances that deplete Ozone Layer is a global agreement that mainly deals with the reduction of production and emission of ozone depleting substances, as the name suggests; and adopted in 1987. The agreement signifies a positive stride in the global community's endeavor to safeguard our planet's biosphere from the risks associated with heightened solar ultraviolet radiation.⁷ The protocol has also yielded positive effects in diminishing greenhouse gas emissions.⁸ The treaty targets in chlorofluorocarbons (CFCs), halons, methyl chloroform that release chlorine and bromine atoms in stratosphere that ultimately leads to ozone molecule depletion. There have been schedules made for phasing out of production and consumption of ODS (Ozone Depleting Substances). A very important feature of the agreement is the multilateral fund, which is made for the developing states to

⁷ Benedick, "Montreal Protocol on Substances that Deplete the Ozone Layer" (1996).

⁸ T. M. L. Wigley, "Future CFC Concentrations Under the Montreal Protocol and Their Greenhouse-Effect Implications" (1988).

implement the agreement in meeting the targets.

India became a party in this in 1993. Another great success for the country is the meeting of the target in phasing out of production of CFCs in 2010. It has taken the help of the multilateral fund for financial and technical assistance in helping the projects for the furtherance of the protocol.

d. The Basel Convention on Control of Transboundary Movements of Hazardous Wastes and their Disposal

Founded in 1989, the Basel Convention seeks to safeguard both the environment and human health from the detrimental impacts arising from the production and handling of hazardous waste.⁹ The main goal is to manage cross border transfer (transboundary) of dangerous waste. The primary objective is to minimize the production of hazardous waste, overseeing movements between nations, guaranteeing their secure and proper disposal. There are annexes that are provided which defines hazardous wastes and other wastes.

The main feature of the convention is the PIC Prior Informed Procedure, as the name suggests, parties need to first take consent and notify from authorities before exporting and importing such wastes. Then there is ESM Environmentally Sound Management. It talks about the efforts a nation has to take. In domestic level for proper waste management. It goes on about less generation of waste, treating and disposing waste in a sound manner in the aspect of environment.

India became a part of the convention in 1992, when it came into force. In lieu of this, India has formulated Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

e. The Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) is an all-encompassing global treaty with the objective of safeguarding the variety of life on our planet.¹⁰ Despite its possible benefits,

⁹ K. K. Peiry, "The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: The Basel Convention at a Glance" *Proceedings of the ASIL Annual Meeting (2013)*.

¹⁰ Fiona McConnell, "The Convention on Biological Diversity" *The Way Forward (2019)*.

considerable obstacles exist in putting it into practice, particularly in developing nations and economies undergoing transition, owing to restricted capabilities in diverse aspects.¹¹

Established during Earth Summit in 1992, it talks about the protection of biodiversity, utilization of biological resources in responsible manner. It also dwells upon preserving biodiversity and using the components and biological resources in a sustainable manner. There needs to be fair utilization of genetic resources.

India became a part of the convention in 1994 upon the ratification of the same. For executing the CBD goals, the country has made the National Biodiversity Strategy for conserving biological diversity.

¹¹ Alvin Chandra and ,Anastasiya Idrisova, “Convention on Biological Diversity: A Review of National Challenges and Opportunities for Implementation” *Biodiversity and Conservation* (2011).