

ENVIRONMENTAL LAW

COURSE OBJECTIVES:

The objective of this course is to enable the students to understand the legal protection of the environment through various laws. The course aims to shed vivid light on environmental jurisprudence and aspires to equip future lawyers with knowledge and skills to handle environmental matters. It further highlights the detailed understanding of emerging environmental issues, remedies for the same and the viability of potential solutions. This course intends to develop an in-depth understanding of various environmental legislations available in India. The role of international and national environmental mechanisms & their involvement in promoting the cause of the environment is emphatically elucidated along with the outcome of various conferences and conventions. Environmental problems have attained alarming proportions. It is essential to sensitize the students to environmental issues and the laws. The important principles in the field like intergenerational equity, carrying capacity, sustainable development and precautionary, polluter pays principles are to be appreciated. The law in practice is to be analyzed and evaluated. The course is designed towards these objectives.

इस पाठ्यक्रम का उद्देश्य छात्रों को विभिन्न कानूनों के माध्यम से पर्यावरण के कानूनी संरक्षण को समझने में सक्षम बनाना है। पाठ्यक्रम का उद्देश्य पर्यावरणीय न्यायशास्त्र पर विशद प्रकाश डालना है और भविष्य के वकीलों को पर्यावरणीय मामलों को संभालने के लिए ज्ञान और कौशल से लैस करना है। यह उभरते हुए पर्यावरणीय मुद्दों की विस्तृत समझ, उनके उपचार और संभावित समाधानों की व्यवहार्यता पर प्रकाश डालता है। इस कोर्स का उद्देश्य भारत में उपलब्ध विभिन्न पर्यावरण कानूनों की गहन समझ विकसित करना है। विभिन्न सम्मेलनों और सम्मेलनों के परिणामों के साथ-साथ अंतर्राष्ट्रीय और राष्ट्रीय पर्यावरण तंत्र की भूमिका और पर्यावरण के कारण को बढ़ावा देने में उनकी भागीदारी को सशक्त रूप से स्पष्ट किया गया है। पर्यावरणीय समस्याओं ने खतरनाक रूप ले लिया है छात्रों को पर्यावरणीय मुद्दों और कानूनों के प्रति संवेदनशील बनाना आवश्यक है। इस क्षेत्र में महत्वपूर्ण सिद्धांत जैसे इंटरनेशनल इक्विटी, वहन क्षमता, सतत विकास और एहतियाती, प्रदूषक भुगतान सिद्धांत की सराहना की जानी चाहिए। व्यवहार में कानून का विश्लेषण और मूल्यांकन किया जाना है। पाठ्यक्रम इन उद्देश्यों के लिए डिज़ाइन किया गया है।

COURSE OUTCOMES:

After completing this course, the student will be able to:

1. To develop a basic scientific understanding of environmental issues, their causes, effects, remedies and viable solutions.
2. To be able to apply disciplinary knowledge and enforce the same through available mechanisms.
3. To explore the developments in national & international environmental laws and their fundamental principles.
4. To have an in-depth understanding of various statutes and provisions in respect of environmental laws.
5. To know about the importance of Public Participation, Public Interest Litigation, and other remedies in preserving and protecting the environment.
6. To analyze areas concerning Global & transboundary environmental problems through better perspectives.

MODULE 1:**1. Environment, its components, and factors affecting the quality of environment including global warming, climate change and kinds of pollution.**

The environment refers to the natural surroundings in which living organisms exist. It encompasses both the physical and biological components of the Earth, including the air, water, land, and the interactions between them. Here are the key components of the environment:

Atmosphere: The atmosphere is the layer of gases surrounding the Earth. It consists of nitrogen, oxygen, carbon dioxide, and other trace gases. The atmosphere plays a crucial role in regulating temperature, weather patterns, and the distribution of gases necessary for life.

Hydrosphere: The hydrosphere comprises all forms of water on Earth, including oceans, lakes, rivers, groundwater, and glaciers. It provides habitat for aquatic organisms, regulates the Earth's temperature, and plays a vital role in the water cycle.

Lithosphere: The lithosphere refers to the solid outer layer of the Earth, which includes the Earth's crust and uppermost mantle. It consists of various geological features such as mountains, valleys, plateaus, and soils. The lithosphere supports terrestrial life and contains important mineral and energy resources.

Biosphere: The biosphere encompasses all living organisms on Earth, including plants, animals, and microorganisms. It includes diverse ecosystems such as forests, grasslands, deserts, and coral reefs. The biosphere interacts with the other components of the environment, contributing to the balance and sustainability of life on Earth.

Various factors affect the quality of the environment, leading to environmental issues and challenges. Some of the key factors include:

Global Warming and Climate Change: Global warming refers to the long-term increase in Earth's average temperature, primarily caused by the accumulation of greenhouse gases in the atmosphere. This phenomenon contributes to climate change, leading to altered weather patterns, rising sea levels, and increased frequency of extreme weather events.

Pollution: Pollution is the introduction of harmful substances or contaminants into the environment. There are different types of pollution, including:

Air Pollution: The release of pollutants into the atmosphere, such as emissions from vehicles, industrial activities, and burning of fossil fuels.

Water Pollution: Contamination of water bodies, often caused by industrial waste, sewage, agricultural runoff, and improper disposal of chemicals.

Soil Pollution: The presence of pollutants in the soil, which can affect agricultural productivity and contaminate groundwater.

Noise Pollution: Excessive and disruptive noise that can have adverse effects on human health and wildlife.

Light Pollution: The excessive or misdirected artificial light that affects the natural light cycle and disrupts ecosystems.

Deforestation and Habitat Loss: Deforestation refers to the clearing of forests for various purposes, such as agriculture, logging, and urbanization. It leads to habitat loss, biodiversity decline, soil erosion, and disruption of ecosystems.

Overpopulation and Resource Depletion: Rapid population growth puts pressure on natural resources, leading to overconsumption, depletion of freshwater sources, energy demands, and waste generation.

Industrialization and Urbanization: Industrial activities and urban development contribute to pollution, resource consumption, habitat destruction, and the generation of waste and greenhouse gas emissions.

2. **Environmental Law** – meaning and purpose.

India had an ancient tradition of paying constant attention to protection of the environment. There are writings galore, to show that in ancient India every individual had to practice the dharmato protect and worship nature. In India the devices and rules for protecting the environment are discernible from ancient times.

Environmentalism is not a fixed concept, but is always evolving influenced by its context. This also applies to Indian environmentalism, which has developed and changed throughout the years. There is a rapid evolution in the Indian legislations after independence as the need and concern regarding environment arose. From ancient environmental rules including Buddhism and Jainism to medieval and then from British era to afterwards and the coming of modern legislations on environmental laws in India, a great sense of concern has been shown by the legislature and even the Indian judiciary showed a great concern regarding the environment with its landmark judgments.

Environment

The environment has been defined as that outer physical and biological system in which man and other organisms live as a whole. Human environment consists of both physical environment and biological environment. Physical environment covers land, water and air. Biological environment includes plants, animals and other organisms.

‘Environment’ defined under the Environmental Protection Act, 1986, ‘Environment’ includes Water, air and land and the inter-relationship which exists among and between, water, air, land, and human beings, other living creatures, plants, microorganisms and property.

The term environment has been derived from the term ‘environ’, which means ‘to surround’ Thus, etymologically environment means ‘surrounding conditions, circumstances affecting people’s life.

‘Environment’ includes water, air and land and the inter-relationship which exist among and between water, air, land and human beings, other living creatures, plants, micro-organisms and property.

It includes the complex physical, chemical and biological factors surrounding an organism or an ecological community. Such factors act and interact with various species and organisms to affect their form, growth and survival. Any unfavourable alteration of this environment is called environmental pollution. Air, water, land, radiation and thermal are the common type of pollution.

Obviously, the “Environment” comprises all entities, living and non-living, natural or man-made, external to oneself, and their interrelationships, which provide value, now or perhaps in the future, to humankind. Environmental concerns relate to their degradation through actions of humans.

The goals of the Environmental policy may be formulated in several ways - to protect human health, ensure viability of wild life, preservation of historic monuments, stopping further degradation of the environment etc.

What is environmental law?

Environmental law consists of a wide variety of legislation, enactments, and provisions that are chiefly concerned with the regulation of human activity concerning our natural environment and its various interconnected ecosystems. While everything that is encompassed in environmental law may not directly intersect with each other, they all act as safeguards in preventing environmental damage and ensuring effective management of the environment and its multiple ecosystems.

Importance of environmental law

Environmental law and legislation are central in protecting us humans as well as the different plants and animals in the greater ecosystem that we exist in. Environmental law ensures that individuals, governments and cooperates do not cause harm to the environment or its

ecosystems. It is central in setting up, regulating, and interpreting the various conventions and laws that have been initiated by various countries and international organisations across the world, to prevent transgressions that pose a threat to the environment and by extension the human race as a whole.

Provision of Environmental Law in India

Apart from international laws, every country has enacted laws regarding environment protection, pollution control etc. In India, there are several acts for environment protection that says protection of environment is the duty of government.

Policy and Laws in Medieval India (1638-1800 AD)

To Mughal rulers, forest meant no more than woodlands where they could hunt. The history of medieval India is dominated by Muslim Rulers where no note worthy development of environmental jurisprudence took place except during the rule of Mughal Emperor Akbar. During Akbar's rule except rulers others are prohibited from hunting or shikar. But no major initiatives took place during medieval period to prevent environmental protection and conservation of natural resources as the rulers were only interested in war, religion propagation and empire building. Barring "royal trees" which enjoyed patronage from being cut except upon a fee, there was no restriction on cutting of other trees, hunting animals, etc. Forests during this period shrank steadily in size.

Laws in British India (1800-1947 AD)

- Shore Nuisance (Bombay and Kolaba) Act, 1853 imposed restrictions on the fouling of seawater.
- Merchant Shipping Act of 1858 dealt with prevention of sea pollution by oil.
- The Fisheries Act, 1897
- The Bengal Smoke Nuisance Act of 1905
- Bombay Smoke Nuisance Act of 1912
- Wild Birds and Animals Protection Act, 1912

Laws after Independence (1947)

The Indian Constitution, as adopted in 1950, did not deal with that the subject of environment or prevention and control of pollution as such (until 1976 Amendment). The post independent Indian approach was centered on economic development and poverty alleviation and not on resource conservation.

The year 1972 was a landmark in the field of environment, when United Nations Conference on the Human Environment was held at Stockholm (Sweden) from 5th to 16th June, in which "Declaration on the Human Environment" was adopted. This may be considered as the beginning of environment movement in the world.

The Stockholm Declaration of 1972 was perhaps the first major attempt to conserve and protect the human environment at the international level. The preamble of it states, 'the need for a common outlook and for common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment.

As a consequence of this Declaration, the States were required to adopt legislative measures to protect and improve the environment. Accordingly, Indian Parliament inserted two Articles, i.e., 48A and 51A in the Constitution of India in 1976.

In India a separate ministry namely The Department of Environment was established in 1980 to ensure a healthy environment for the country.

The main acts for environment protection in India are as follows:-

1. The Forest Conservation Act, 1980
2. The Prevention of Air and Water Pollution, 1974, 1981 (The Central Pollution Control Board) (CPCB) was constituted under this act.
3. The Air Prevention and Control of Pollution, 1981.
4. The Atomic Energy Act. 1982.
5. The Environmental Protection Act, 1986. (It came into force soon after the Bhopal Gas Tragedy)
6. The Environmental Conservation Act. 1989.
7. The National Environmental Tribunal, 1995.
8. National Environmental Appellate Authority Act, 1997.
9. National Environment Management Act (NEMA), 1998
10. Handling and Management of Hazardous Waste Rule in 1989.
11. The Public Liability Insurance Act (Rules and Amendment), 1992.
12. The Biomedical Waste Management and Handling Rules, 1998.
13. The Environment (Siting for Industrial Projects) Rules, 1999.
14. The Municipal Solid Waste (Management and Handling) Rules, 2000.
15. The Ozone Depleting Substance (Regulation and Control) Rules, 2000.
16. The Biological Diversity Act 2002.

Environment and the Indian Constitution

The Indian Constitution is among the few in the world that contains specific provisions on environmental protection.

Laws made by national, provincial and local government add to the rights and responsibilities that are part of the constitution and the common law. These laws also called legislations must comply with the constitution but they can amend change the common hand.

Protection of Life and Personal Liberty is embodied in Article 21. It states, “No person shall be deprived of his life or personal liberty except according to procedure established by law.”

The Indian Constitution guarantees the ‘right to equality’ to all persons without any discrimination. This indicates that any action of the ‘State’ relating to environment must not infringe upon the right to equality as mentioned in the Article 14 of the Constitution. The Stockholm Declaration, 1972, also recognized this principle of equality in environmental management and it called up all the worlds’ nations to abide by this principle.

In the Constitution of India it is clearly stated that it is the duty of the state to ‘protect and improve the environment and to safeguard the forests and wildlife of the country’. It imposes a duty on every citizen ‘to protect and improve the natural environment including forests, lakes, rivers, and wildlife.

Let us further examine the provisions in the Indian Constitution for the protection of environment. The 42nd amendment to the constitution was brought about in the year 1974 makes it the responsibility of the state government to protect and improve the environment and to safeguard the forests and wildlife of the country. The latter, under fundamental duties, makes it the fundamental duty of every citizen to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.

The Art 47 provides that “It is the duty of the state, to raise the level of nutrition and the standard of living and to improve public health, the state shall endeavour to bring about prohibition of the consumption except for medicinal purposes intoxicating drinks and of drugs which are injurious to health. Art. 48A provides that the state shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.”

Art. 51A, included in the Constitution by the 42nd amendment Act, 1976 has the provisions as fundamental duties, says that “It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for

living creatures and to develop the scientific temper, humanism and the other spirit of inquiry and reform, and to safeguard public property and to abjure violence.”

One of the most innovative parts of the Constitution is that the Writ Jurisdiction is conferred on the Supreme Court under Article 32 and on all the High Courts under Article 226. Under these provisions, the courts have the power to issue any direction or orders or writs, including writs in the nature of habeas corpus, mandamus, prohibition, quo-warranto and certiorari, whichever is appropriate. This has paved way for one of the most effective and dynamic mechanisms for the protection of environment, that is, Public Interest Litigations.

Role of Panchayat and Municipalities

The Constitution (Seventy-third Amendment) Act 1992 and the Constitution (Seventy – fourth Amendment) Act 1992 have given a Constitutional status to the Panchayats and the Municipalities respectively. Article 243-B provides for the establishment of intermediate and district levels. Article 243-G authorizes the legislature of State to endow the Panchayats with such powers and authority as may be necessary to enable them to function as institution of self-government.

The Eleventh Schedule along with other matters contains following matters which are directly or indirectly related to environment like, agriculture, soil conservation, water management and watershed development; fisheries; social forestry and farm forestry; minor forest produce; drinking water; health and sanitation; and maintenance of community assets.

The matters which are related to environment in the twelfth Schedule may be enumerated as follows:

Urban planning including town planning regulation of land use water supply; public health, sanitation, conservancy and solid waste management, urban forestry, protection of the environment and promotion of ecological aspects; provision of urban amenities such as park grounds ; cremation grounds and electric crematoriums; prevention of cruelty to animals regulation slaughter houses and tanneries.

Judicial Contribution

The right of a person to pollution free environment is a part of basic jurisprudence of the land. Article 21 of the Constitution of India guarantees a fundamental right to life and personal liberty. The Supreme Court has interpreted the right to life and personal liberty to include the right to wholesome environment. The Court through its various judgements has held that the mandate of right to life includes right to clean environment, drinking-water and pollution-free atmosphere.

It was Mr. M.C Mehta who revived the concept of environmental jurisprudence in India through PIL. Others too had their silent but noteworthy roles to play. Some of the landmark judgements having fair share in development of the environmental jurisprudence in India are:

Narmada Bachao v/s Union of India

Way back in 1946, the then government of the Central Provinces and Berar and the then government of Bombay requested the Central Waterways, Irrigation and Navigation Commission to take up investigation on the Narmada river system for basin wise development of the river with flood control, irrigation, power and extension of Navigation as the objectives in view. The matter was referred to a tribunal in 1968 constituted under the Inter-State Water Disputes Act, 1956. Based on the agreement between the Chief Ministers of 4 States [M.P, Maharashtra, Rajasthan and Gujarat] the tribunal declared its award on 16th August 1978. In order to meet the financial obligation, consultations started in 1978 with the World Bank for obtaining a loan. In May 1985 the loan was sanctioned, and in 1987 the Ministry of Environment and Forest accorded Environmental Clearance subject to certain conditions.

The Supreme Court observed that the Sardar Sarovar Project would make a positive impact on the preservation of environment. The project has been long awaited by the people of Gujarat to whom water will be available to the drought prone and arid parts, this would help in effectively

arresting ecological degradation which was returning the make these areas inhabitable due to salinity ingress, advancement of desert, ground water depletion, fluoride and nitrite affected water and vanishing green cover. The ecology of water scarcity areas is under stress and transfer of Narmada water to these areas will lead to sustainable agriculture and spread of green cover.

There will also be improvement of fodder availability, which will reduce pressure on biodiversity and vegetation. The SSP by generating clean eco-friendly hydropower will save the air pollution which would otherwise take place by thermal general power of similar capacity. Following the above analysis the Court thought it unfit to interfere with the construction of the dam, as its advantages over took its disadvantages. The construction of the dam was allowed subject to certain conditions. Such interpretations of Article 21 by the Supreme Court have over the years become the basis of environmental jurisprudence, and have been instrumental in helping in the name of protection of India's environment. Also in addition to this there now exists a number of laws relating to environment, enacted over the last few decades.

Taj Mahal Case

In Taj Mahal's case, the Supreme Court issued directions that coal and coke based industries in Taj Trapezium (TTZ) which were damaging Taj should either change over to natural gas or to be relocated outside TTZ. The court was conscious that environmental changes are the inevitable consequences of industrial development in our country, but at the same time the quality of environment cannot be permitted to be damaged by polluting the air, water and land to such an extent that it becomes a health hazard for the residents of the area. Showing deep concern to the environment, the Court observed that 'every citizen has a right to fresh air and to live in pollution-free environment.

Again the Supreme Court directed to protect the plants planted around Taj by the Forest Department as under:

"The Divisional Forest Officer, Agra is directed to take immediate steps for seeing that water is supplied to the plants... The Union Government is directed to release the funds immediately without waiting for receipt of the proposal from the U.P. Government on the basis of the copy of the report. Funding may be subsequently settled with the U.P. Government, but in any set of circumstances for want of funds the officer is directed to see that plants do not wither away."

The apex Court gave various directions including banning the use of coal and coke and directing the industries to switch over to Compressed Natural Gas (CNG).

Ganges Pollution Case:

The Supreme Court of India reacting to the public interest litigations has passed several judgments and a number of Orders against polluting industries numbering more than fifty thousand in the Ganga basin. As a result of these directions millions of people have been saved from the effects of air and water pollution in Ganga basin covering 8 states in India.

Kamal Nath's Case

The irony of this case is that a Public Interest Litigation was filed against the family members of Kamal Nath, the Minister of Environment and Forests, Govt. of India. The family members of the Minister own the Span motel in the State of Himachal Pradesh. They diverted the Course of River Beas to beautify the motel. The Supreme Court of India had directed the owners of the Motel to hand over the forest land to the Govt. of Himachal Pradesh and further order the removal of all sorts of encroachment spending the money from their own pocket.

In M.C. Mehta vs. Union of India, AIR 1987 SC 1086 (Popularly known as "Oleum Gas Leak Case") – The Supreme Court treated the right to live in pollution free environment as a part of fundamental right to life under Art.21 of the Constitution. The Supreme Court held that where an enterprise is engaged in a hazardous or inherently dangerous activity and harm results to any one

on account of an accident in the operation of such hazardous and inherently dangerous activity resulting in the escape of toxic gas the enterprise is strictly and absolutely liable to compensate all those who are affected by the accident and such a liability is not subject to any exception. The enterprise must be absolutely liable to compensate for such harm and it should be no answer to the enterprise to say that it had taken all reasonable care and that the harm occurred without negligence on its part. Absolute liability is one tort where fault need not be established. It is no-fault liability.

Further, the A.P. High Court in *T. Damodar Rao vs. S.O., Municipal Corporation, Hyderabad*, (AIR 1987 A.P. 171) laid down that right to live in healthy environment was specially declared to be part of Art.21 to the Constitution.

3. Constitutional Provisions relating to rights and duties of people and government Public Interest Litigation and Judicial Activism.

Right to a Healthy Environment: The Constitution of India does not explicitly mention the right to a healthy environment as a fundamental right. However, the Supreme Court has interpreted the right to life under Article 21 to include the right to a clean and healthy environment. The court has held that it is the fundamental duty of the government and citizens to protect and improve the environment.

Directive Principles of State Policy (DPSPs): The DPSPs in the Constitution include several provisions that relate to environmental protection and conservation. These principles guide the government in formulating policies and laws for the welfare of the people, and they include:

Article 48A: It states that the State shall endeavor to protect and improve the environment and safeguard the forests and wildlife of the country.

Article 51A(g): It imposes a fundamental duty on every citizen to protect and improve the natural environment, including forests, lakes, rivers, and wildlife.

Public Interest Litigation (PIL) and Judicial Activism:

Public Interest Litigation (PIL): PIL has played a significant role in environmental protection in India. It allows individuals, activists, or organizations to file petitions in court on behalf of the public interest or for the protection of the environment. PIL petitions have been instrumental in addressing issues such as pollution, deforestation, waste management, and conservation of natural resources. The courts have used PIL as a tool to enforce environmental laws and hold governments accountable for their environmental obligations.

Judicial Activism: Judicial activism in environmental matters refers to the proactive role of the judiciary in interpreting and enforcing environmental laws, policies, and principles. The judiciary has been involved in setting environmental standards, monitoring compliance, and ensuring that governments take appropriate measures for environmental protection. Judicial activism has helped in addressing environmental challenges, promoting sustainable development, and protecting the rights of affected communities.

4 General Laws and Environment Protection- application of Tort law, Indian Penal Code and Criminal Procedure Code.

In the context of environmental protection, several general laws and statutes, including Tort law, the Indian Penal Code (IPC), and the Criminal Procedure Code (CrPC), have implications and applications. Here's a brief overview:

Tort Law: Tort law deals with civil wrongs committed by one party against another, resulting in harm, injury, or damage. In the context of the environment, the principles of tort law can be applied to seek compensation for environmental harm or to prevent or remedy environmental pollution or degradation. Some relevant torts include:

Nuisance: A person can bring a claim of private nuisance or public nuisance when the activities of another party cause substantial interference with their use and enjoyment of their property or cause harm to the public.

Negligence: A person can bring a claim of negligence against another party if they can establish that the defendant owed a duty of care, breached that duty, and caused harm or damage as a result.

Strict Liability: In certain cases, strict liability may apply, where the defendant is held liable for the harm caused, regardless of fault or negligence.

Tort law provides a legal framework for seeking compensation for environmental damage and can act as a deterrent against activities that harm the environment.

Indian Penal Code (IPC): The IPC is a criminal law statute that defines various offenses and prescribes penalties for criminal acts. It contains provisions that can be applicable in cases of environmental crimes and violations. Some relevant sections include:

Section 268: Pertains to the public nuisance, which includes acts that endanger human life, health, or safety or cause annoyance to the public.

Section 278: Deals with making the atmosphere noxious to health, such as by polluting water sources or emitting noxious gases.

Section 277: Addresses the fouling of water sources, including rivers and wells, through the introduction of poisonous or polluting matter.

Section 432: Covers mischief, which includes causing damage to any property, including natural resources like forests or wildlife.

The IPC can be invoked to prosecute individuals or entities involved in environmental offenses and provides for penalties, including fines and imprisonment.

Criminal Procedure Code (CrPC): The CrPC lays down the procedure for the investigation and trial of criminal offenses. It provides the framework for the police, courts, and other authorities to handle criminal cases, including those related to environmental offenses. It ensures fairness, due process, and the protection of rights during the investigation and trial stages.

The CrPC outlines the process for filing complaints, conducting investigations, gathering evidence, and conducting trials. It also includes provisions for the arrest, detention, and release of individuals involved in criminal offenses, including environmental crimes.

The CrPC ensures that the investigation and prosecution of environmental offenses are carried out in accordance with established legal procedures and safeguards.

Environmental crimes are widely recognized as among some of the most profitable forms of transnational criminal activity. Environmental crimes are on a rise and so should be the efforts in preventing them. Even functional criminal law aims to deter and generally prevent such activities. There are various reasons as to why the existing laws have not been effective successfully in deterring the environmental crime rate. There are a variety of problems faced by those who are given the task to apply these laws. There are various loopholes in the dual role vested in the authorities who are advisers as well the executors of these laws. Furthermore, there are issues faced by the prosecutors and the police in investigating the competency and the responsibility of the accused. These concerns seek clarity on the underlying causes of these fundamental issues.

Thus this article explores whether criminal law can help in the protection of our environment by functioning as a means of monitoring and controlling the hazardous activities which directly/indirectly have an impact on the environment. It focuses on how impactful are the regulatory aspects of law, the likelihood of sanctions and punishment, and their severity in actually deterring such activities.

Environmental laws

These laws address the regulatory network, the general principles which they abide by, and the customary laws that describe the impact of human activities on the environment. These laws mainly work on the idea of environmental pollution as the centre of all implementation. They recognise our natural resources, their scarcity, the need to preserve them for future generations, and in general work for environmental impact assessment.

For India, our environmental laws majorly focus on areas involving air pollution and quality, water pollution and quality, sustainable development, waste management, precautionary and preventive measures, contaminant cleanup, safety in dumping, and dealing with chemical elements dumping, and public trust. However, their implementation entails far more complex issues having an interplay of social, political, and economic factors in addressing the serious environmental repercussions. All these environmental rights and principles have been behind the development of environmental jurisprudence and judicial adjudication in the country. This existing framework is invoked in imparting the role of the various public and private enterprises and determining their constitutional, statutory and common law application and performance.

In the backdrop of the country's struggles to respond to the ever-increasing deterioration of environmental quality, what is required is a conceptual clarity about the laws, the gaps, their enforcement, and the hurdles and limitations they face which are significant for the improvement of the country's environmental governance.

Types of environmental crimes

These crimes are considered under the organized criminal activities all around the world. Environmental crimes which are also known as green-collar crimes constitute the fourth largest crime in the above-mentioned list. These crimes are fundamentally driven by the aim of gaining material and financial benefits. Crimes under this heading as listed by the United Nations Interregional Crime and Justice Research Institution are as follows:

1. Poaching.
2. Illegal trade of wildlife.
3. Trade of unregulated and illegal products, for financial and material gains- for example, trade of timber, ivory, rhino horns, or even sandalwood.
4. Unreported fishing.
5. Illegal logging.

Other non-exhaustive lists of environmental crimes include littering, waste disposal, oil spills, dumping into water bodies, wetlands destruction, improper handling of pesticides, burning wastage, improper removal of asbestos, smuggling chemicals, etc. Further, they can also be classified as per the nature of these crimes, such as cognizable, non-cognizable, compoundable, non-compoundable, bailable, and non-bailable.

Present statistics

These crimes are on the rise, according to a survey done in 2017, in India, there had been a humongous jump of cases in India against the environment and wildlife, which has been around 790% from that in 2016. The NCRB report of 2016, though claiming a decrease in the number of crimes from 2015, nevertheless had depicted an increase in certain other areas of environmental crimes. A 2021 media report shows that over 50,000 environment-related cases have their trial pending.

Previously, many steps had been taken up by the government to increase the reporting of cases with the rise in awareness of environmental crimes and wildlife. This has also led to a rise in the activist movement all over the country to bring animal rights in India, with proper law enforcement, there has been a rise in the movement which is meant to be the voice for the voiceless, that is the nature, the environment in which we live. However, a lot needs to be done in the framing and the execution part to get effective results. The existing laws have had both positive and negative effects which hint towards the requirements of legislating new laws.

Legal framework

Crime against the environment entails violation and disobedience of the pre-existing statutes and laws that aim to protect the ecological balance of nature. The quest of the rich, richer and richest in the name of development and ever-increasing capitalistic idealism of the society has conveniently managed to reach this harrowing state of hazardous waste. There is a myriad of legislation that has been introduced by the legislature and the government for environmental protection.

To name a few include Water (Prevention and Control of Pollution) Act of 1974, Environment (Protection) Act of 1986 (enacted in the aftermath of Bhopal Gas tragedy), Water (Prevention and Control of Pollution) Cess Act of 1977, Air (Prevention and Control of Pollution) Act of 1981, etc. Despite having this wide legal landscape with a broad spectrum of legislations, there are umpteen gaps and lacunas in impactful enforcement of these penalties and punishments against environmental crimes. For instance, India is a member signatory of five major international conventions related to wildlife protection, still, there are many instances where illegal trade of endangered animals has taken place between our surrounding countries. All of these are towards one thing: institutional failure and legislative inadequacy and therefore despite having so many enforcing provisions, the penal sanction have proved to be inefficient.

Constitution and judicial intervention

Under the head of fundamental duties and the directive principle of state policy (DPSP), India works towards its national commitment to furthering the cause of environmental protection. These articles have been a guiding force for the country to ensure a wholesome environment for its people. All such enactments, legislations, and their enforcement are a result of many public interest litigations based on judicially settled principle under Article 21 of the Indian Constitution which recognizes the fundamental substantive right to a healthy and pollution-free environment. Further, it was the 42nd amendment that introduced the word environment in the Indian Constitution along with Article 48A of DPSP and Article 51A under fundamental duties.

Cases

In the case of *Rural Litigation and Entitlement Kendra v. the State of UP*, (1985) stated that it is not only the duty of the state but also of its citizens to protect the environment under Article 51A(g). Further, the case of *L. K. Koolwal v. the State of Rajasthan and Ors* (1988) recognized the scope of Article 51-A and explained the creation of a right in the favour of the citizen to move to the court for the enforcement of this article. It was said that where there is a right, there is a duty in the case of *M.C.Mehta v. the State of Orissa*, (1992) implying that it is the life of the citizen which gets affected by unhealthy living conditions and the environment, and therefore they also must do their duty to support and make sure that the state fulfills its obligation towards the protection of their right. Finally, under *AIIMS Students' Union v. AIIMS and Ors*, (2001) the Apex Court stated that states cannot run from their obligation to give effect to fundamental duties and DPSP and that interpretation of provisions are significantly guided by these duties though they are not enforceable.

Approach and exercise of procedural rights

By this judicial activism, most orders were being issued specifically to the requirements of implementation to not only deal with the case in question but also for future enforcement and application by setting new guidelines and practices in place. The approach of the courts has been predominantly anthropocentric in nature and occasional acknowledgement of the rights of the environment. Though this has not exactly yielded fortunate results in all the cases, yet provided the courts with some flexibility in adapting their orders on a case-to-case basis.

Further, so far as procedural rights are concerned, which are the right to information, the right to public participation, and the right to access to justice. There have been certain loopholes and limitations in exercising them specifically about the laws in Environment (Protection) Act 1986, the EIA Notification 2006, the Right to Information Act 2005, the Forest Rights Act 2006, and the National Green Tribunal Act 2010, and though these legislations provide enough statutory expression, they are not realized up to satisfaction as often these rights are denied.

Prominent principles guiding the Indian courts

India's entire environmental jurisprudence has been based on major four principles. These include sustainable development, the polluter pays principle, the precautionary principle, and the public trust doctrine.

Sustainable development

This concept aims in fulfilling the current needs of the people without diminishing the access of the future generation to similar resources. To distill the Indian Supreme Court's definition of the principle one can refer to the judgment in *Vellore Citizens' Welfare Forum vs. Union of India, 1996*, however upon a critical examination of the *Narmada* judgment (1999), it reveals how the Supreme Court has "instrumentally harnessed the inherent vagueness of the principle."

Polluter pays principle

It simply holds the polluter liable for the damage caused to the environment. The polluter not only has to compensate the victims of the pollution but also to compensate for restoring the environmental degradation that has already been caused. This principle has been used by the courts extensively, due to which the need to move away from the criminal penalty mechanism and adopt a stringent civil liability mechanism based on the polluter pays principle has been indicated earlier by the National Environmental Policy, 2006. However, times have changed and given sufficient proof of the inadequacy of the existing criteria of laws and their application.

The Supreme Court has operationalized this principle by classifying the subject into five questions. These are who is the polluter, how and when is the application of the principle triggered, how to assess the loss and determine the compensation, what does the polluter pay, and finally, what are the limits of the principle. However, courts have been contradictory in their approach to the implementation of this principle.

Precautionary principle

This principle, as its name suggests, promotes the implementation of preventive measures in situations that could cause serious threat or irreversible damage despite the absence of any scientific certainty. However, the application of the principle in the *Vellore* judgment is at odds with the Apex Court's definition of the principle. There is a lack of clarity in the Court's engagement with the principle and the blurring of lines between two distinct legal principles – precaution and prevention. It can be helpful in arriving at environmentally favourable judicial outcomes, but it does not bode well for the development of a clear line of jurisprudence.

Public trust doctrine

First applied in the environmental law of India in the case of *M.C. Mehta vs Kamal Nath & Ors, 1996*, it promotes the idea that no one single person owns the natural resources and it is upon the government and the regulatory authorities to act as a trustee and hold the resources for free and unobstructed use of these resources by the general public. However, following the application of it, it seems rather difficult to identify how the doctrine could lend predictability to decision-making regarding public trust properties. The doctrine needs to be made more relevant, and figure out ways in which it may afford greater protection to natural resources held in trust.

Environment protection under the common law

The common law remedies incidentally provide for the protection of the environment. Courts are also empowered to issue temporary and permanent injunctions under the Code of Civil Procedure and Specific Relief Act for controlling and abating pollution. Some of the remedies are as follows:

Nuisance

This relates to illegal interference of one's enjoyment of land and any right arising from it which can be classified under private or a public nuisance depending upon the affected individuals. However public nuisance is exclusively dealt with under Section 91 of the Criminal Procedure Code, 1973 (CrPC). It prescribes filing of a suit to claim relief or interim injunction that is likely to cause a public nuisance. CrPC also empowers a magistrate under Section 133 to take appropriate action by restraining any person carrying out an act of public nuisance. In the case of *Ramlal v. Mustafabad Oil and Oil Ginning Factory* (1968), the Punjab and Haryana Court observed that noise arising from a legal activity that is above the necessary threshold is no defence from attracting the liability of public nuisance. The Indian Penal Code, 1860 also deals with public nuisance which will be discussed later.

Trespass

To establish trespass which is an unlawful interference with one's possession of the property, two primary ingredients need to be established. These include making an intentional invasion/interference in another's property which is direct.

Negligence

Action under negligence can be brought by establishing a direct nexus/connection between the negligence and the damage caused. It also requires the respondent to prove that reasonably sufficient care was taken to avoid such public nuisance as required by the law. It is better explained in the case of *Naresh Dutt Tyagi v. State of Uttar Pradesh* (1993), which was a clear-cut case of negligence. Herein the fumes released from the leaked pesticides to the nearby area through ventilators resulted in the death of three children and a fetus in a pregnant woman.

Strict liability and absolute liability

This principle has been brought forth by the case of *Rylands v. Fletcher* (1868) wherein a person for his purposes, brings on his land and collects and keeps there anything likely to cause mischief should be kept by such person at his danger and if it escapes and causes mischief, then such person will be prima facie liable for all the damage which is the natural consequence of its escape. This principle has also been found in the Indian judicial setting in the case of *M C Mehta v. Union of India* (oleum gas leak case 1986) which recognized strict liability and extended it into absolute liability considering the severity of the damage caused. Exceptions to strict liability include an act of god, plaintiff's fault, an act committed by a third party, any act committed after acquiring express or implied consent of the plaintiff, or when a defendant makes natural use of land.

Whereas the concept of absolute liability also evolved from the above-mentioned M C Mehta case which rose on the rule of strict liability and stated that the liability would fall on the defendant

for the damage caused without any consideration to the exceptions of the strict liability rule. This rule states that if any person is engaged in an inherently dangerous hazardous activity and any harm is caused based on an accident for carrying out such activity, they will be held absolutely liable.

Environment protection under the penal/criminal law Indian Penal Code, 1860

There are also quite a few penal provisions under the Indian Penal Code, 1860, and the Criminal Procedure Code, 1973. Chapter XIV of the IPC lists down offences pertaining to public health and safety. To start with, Section 268 classifies environmental crimes as a public nuisance and Section 290 penalizes the offence causing a public nuisance with a fine extending up to Rs 200. Thus those who act or omit causing injury to others by environmental pollution, then they can be subjected to prosecution. Like in the case of *K Ramakrishnan v. the State of Kerala* (1999), it was held that smoking in public places causes public nuisance and is therefore punishable under IPC. Again, in *Murli S. Deora v. Union of India* (2001), the Supreme Court held that smoking in a public place is a violation of the fundamental right of those who don't smoke under Article 21.

Section 277 is applied for preventing water pollution and imposes imprisonment up to three months or a fine up to Rs 500 or both. The section uses terms such as public spring or reservoir whose interpretation by the courts has been quite restrictive as it does not include running water of rivers, streams, and canals. Similarly, under Section 278, a fine up to Rs 500 is imposed on anyone who voluntarily spoils the surrounding by making it harmful for anyone's health in general dwelling, or carrying a business in the neighbourhood, or passing along the way of the public. Besides these, Sections 426, 430, 431, and 432 of IPC penalizes any pollution caused by mischief.

Criminal Procedure Code, 1973

Similarly, under the Indian Criminal Procedure Code of 1973, under its Chapter X, "*Maintenance of public order and tranquility*, provides preventive and mitigating measures for public nuisance cases pertaining to water, air, soil, and unsanitary/unhygienic conditions.

Section 133 provides for the remedy to environmental pollution in general by empowering a District Magistrate and Sub-Divisional Magistrate to stop the nuisance. Any order made under this provision shall not be questioned in any civil court. The term nuisance as defined in the case of *Govind Singh v. Shanti Sarup* (1978), the court took a very liberal interpretation and included the disposal of substances, the construction of structures, the conduct of occupation, and trade, and confinement or disposal of any dangerous animal into its meaning. However, a private dispute cannot invoke this section and it should be a case of imminent danger affecting the public interest. Further, this section is also independent of sanctions in other environmental laws and statutes.

There are certain other penal provisions primarily in two environmental legislations which are The Water (Prevention and Control of Pollution) Act, 1974, and Environment (Protection) Act, 1986. Section 47 of the Water Act makes a person vicariously liable for an offense committed by a company with that person being in charge of the business of the company. And another is Section 16 which of the Environment Act which is *pari materia* (similar) to Section 47 of the Water Act.

Still, once these sections were regarded to be the saviour and the guardian against environmental crimes but today these have been found to be highly inadequate since the violation of these sections attracts a meagre amount of penalty which in most cases would deter the prosecution from initiating any proceedings.

Need and way forward

Though the entire article so far has been in ways speaking of the dire need of criminalizing environmental crimes, it still needs a separate heading for better understanding. The current state of affairs very well reflects the inadequacy of the existing institutional framework of sanctions which have proved to be not as strong a deterrence. Scholars have also claimed that administrative

sanctions would be inadequate where the impact on the environment is large, and therefore this is where penalizing provisions come into work. While there are various issues with the existing laws some of which are: having less than required regulatory/ enforcing manpower in regulatory agencies compared to the ever-increasing number of industries, the lack of adequate technical knowledge/skills required for enforcement of regulations, resistance to change/attitudinal problems prevalent, lack of financial resources in general, giving importance to only specific types of pollution, lack of an independent regulatory mechanism for environmental governance, etc, an integrated approach would be to introduce holistic legislation as well a criminal approach which would automatically solve most of the issues.

Criminalizing environmental crimes would also allow the court to question the moral culpability of the accused. Otherwise, we are just simply undermining the indirect effects of having capitalistic costs at the cost of harming an entire community of civilians. So far the Indian courts and the green tribunals work on few prominent principles for imposing penalties and liabilities however there is no concrete law in place to determine the amount of penalty. Nor do Indian authorities maintain any reliable source of data on the penalties collected by the courts. Comparing it with the USA, their monetary penalties amounted to only \$74,715, compared to \$253,437 imposed for antitrust and \$141,351 for other crimes. These right waypoints out the fact that even though huge organizations are made to pay for environmental violations, they merely treat them as business costs. It does not necessarily stop them from making further such harmful citizens, proving these monetary and administrative sanctions to not be insufficient.

Criminalizing specific environmental crimes would efficiently serve the purpose. The basis of this statement relies on the data from the USA which has been a pioneer in this field. They started criminalizing environmental crimes during the 1980s and the results, according to a scholar, were 'concrete'. It was also claimed by the US Department of Justice that the department recorded environmental criminal indictments against 911 corporations and individuals, and 686 guilty pleas and convictions have been entered. A total of \$212,408,903 in criminal penalties had been assessed. More than 388 years of imprisonment have been imposed of which nearly 191 years account for actual confinement.

Having a criminal law in place would at the very least instill a fear in the minds of people to take the environmental laws and their prohibitions seriously. A way forward in this direction would be to have such sanctions based on the actual damage caused rather than the number of sections violated. Based upon the severity they can impose simple fines or penalties or rigorous penalties and criminal sanctions. It might have its own difficulties such as determining the stage which attracts criminalizing the actions but that can be better dealt with by the wisdom of the lawmakers. However, one can refer to three main models which would pave a path for determining such violations. These are the model of abstract endangerment, model of concrete endangerment, and model of serious environmental pollution. There are 2 major subjects dealt with in all these models, whether the criminalization takes place due to violation of the law or should it be done because violating the law largely impacts the public at large. Criminal liability could simply arise from violating a provision and not just when substantial harm is caused. This is based on the model of 'minimum culpability' as is proposed by Michael M. O'Hear.

However, that idea that should really be kept in mind is that the provision should be enacted in such a way that would directly/indirectly create a deterrent value. Having clear guidelines on the sentencing of the crime would also prove beneficial. The organization could have a sort of self-policing mechanism to disclose the effect of their violations for reduced penalties. Another thing to keep in mind is having high penalties and punishment would also make the organization turn to high-cost remedies to prevent such violations which in turn would automatically raise their business costs and therefore the cost of the products for the consumers, which does not seem to be a wise way out.

MODULE 2:

2.1 Environment Protection from International Perspectives-

Stockholm Conference, Rio Declaration and Johannesburg Declaration, Introduction to United Nations Framework Convention on Climate Change, Kyoto Protocol, Montreal Protocol and Convention on Biological Diversity.

Environment Protection from International Perspectives:

Stockholm Conference (1972): The Stockholm Conference on the Human Environment was the first major international conference on environmental issues. It took place in Stockholm, Sweden, and laid the foundation for global environmental governance. The conference resulted in the adoption of the Stockholm Declaration, which outlined principles for environmental protection and emphasized the need for sustainable development.

Rio Declaration on Environment and Development (1992): The Rio Declaration was adopted during the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, held in Rio de Janeiro, Brazil. The declaration established principles for sustainable development, including the integration of environmental and developmental considerations, the precautionary principle, and the principle of common but differentiated responsibilities.

Johannesburg Declaration (2002): The Johannesburg Declaration on Sustainable Development was adopted at the World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa. The declaration reaffirmed the commitments made in the Rio Declaration and outlined further actions to achieve sustainable development, including poverty eradication, promotion of social development, and protection of the environment.

United Nations Framework Convention on Climate Change (UNFCCC):

The United Nations Framework Convention on Climate Change is an international environmental treaty aimed at addressing climate change. It was adopted at the Rio Earth Summit in 1992 and entered into force in 1994. The UNFCCC has a goal to stabilize greenhouse gas concentrations in the atmosphere to prevent dangerous anthropogenic interference with the climate system.

Kyoto Protocol:

The Kyoto Protocol is an international agreement under the UNFCCC that sets binding targets for reducing greenhouse gas emissions. It was adopted in 1997 and entered into force in 2005. The protocol introduced legally binding emission reduction commitments for developed countries (known as Annex I parties) and established mechanisms for promoting emissions reductions, such as emissions trading and clean development projects.

Montreal Protocol:

The Montreal Protocol on Substances that Deplete the Ozone Layer is an international treaty designed to protect the ozone layer. It was adopted in 1987 and has been ratified by nearly all countries. The protocol sets out specific control measures to phase out the production and consumption of substances that deplete the ozone layer, such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).

Convention on Biological Diversity (CBD):

The Convention on Biological Diversity is an international treaty that aims to promote the conservation and sustainable use of biodiversity. It was adopted in 1992 at the Rio Earth Summit and has been ratified by most countries. The CBD sets out objectives for the conservation of

biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the utilization of genetic resources.

These international agreements and declarations provide frameworks and guidelines for environmental protection and sustainable development on a global scale. They recognize the importance of addressing environmental challenges, including climate change, ozone depletion, and biodiversity loss, and call for collaborative efforts among nations to protect the environment for present and future generations.

International Environment Law is concerned with the attempt to regulate the population and the depletion of natural resources within a framework of sustainable development. It is a branch of public international law that is created by the state for the state to govern problems that arise between states. Population, biodiversity, climate change, ozone depletion, poisonous and hazardous substances are covered under international law. Development in science and technology has enhanced the possibility of understanding the environmental implication of various natural events as well as human activities. There is an exponential increase in multilateral environmental agreements covering a wide range of problems such as depletion of freshwater supplies, ozone depletion, climate change, biodiversity loss, toxic and hazardous products, and contamination of rivers.

The evolution of international environmental law has produced mixed outcomes. While some treaties have been effective in producing the desired results, it introduces its sources and important underlying principles. The rest is explained in the latter part of the article.

Historical background and scientific foundation

International treaties, customary international laws, and judicial decisions of international courts are the three main sources of international environmental law. Customary international laws are unwritten laws that are followed from the time being among nations. It includes warning a neighboring nation about major accidents that could affect the environment. International environment law is shaped by the decision made by the International Court of Justice or the International Tribunal for the law of seas. The “Polluter pays principle” was created by an international arbitration panel which states that if pollution from one nation causes harm in another nation, the polluter nation must make compensation to the affected nation. A nation’s sovereignty allows it to act as the primary obstacle to all types of international laws. The sovereignty principle states that each country has complete control over the activities within its borders.

The degradation of ecosystems and exploitation of flora (plants) and fauna (animals) were the first environmental challenges to receive international attention. The World Conservation Union (IUCN), a non-governmental organization dedicated to environmental conservation, called on all nations to protect endangered species. The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) is an international agreement that regulates the trade of endangered species and items derived from them to safeguard the endangered plants and animals. There are a total of 172 nations currently participating in this trade.

International Environmental Law

International environmental law is a branch of public international law, which is a body of law created by states to resolve disputes between them. It is concerned with efforts to reduce pollution. The multilateral environmental agreement is the subset of international convention by Article 38 of the Statute of the International Court of Justice, which specifically focuses on environmental matters.

Multilateral Environmental Agreement

It refers to a set of legally binding international instruments that states employ to commit to achieving specified environmental objectives. They can be conventions, treaties, declarations,

agreements, or protocols. As per the principle of international treaties, multilateral treaties are the treaties that bind only those states who have agreed to be bound by them. They are effective tools for the implementation of policies to achieve sustainable development goals.

Sustainable Development Goal

The concept of sustainable development plays an important role in preventing the depletion of natural resources. It refers to the idea of a development meeting the present generation's cultural and physical needs, without damaging the future generation's ability to meet their own needs. The purpose of sustainable development is to promote the type of development that has the least negative impact on the environment. It can be achieved by restricting human activities and making technological development more effective. The rate of consumption of renewable resources should not exceed the rate of production. Examples of sustainable development include wind energy, solar energy, and sustainable construction.

As part of a new sustainable development plan, all states approved a set of targets in September 2015 to end poverty, safeguard the environment, and secure prosperity. It is recognized as one of the important tools to achieve sustainable development goals. They provide the framework for the implementation of activities on the national level. Also, further guidelines will be developed to improve the effectiveness and efficiency.

International environmental law governance

The UN Environment Assembly is the highest-level UN body convened on the environment, which opened on 23 June 2014 at its headquarters, Nairobi. United Nations Environmental Assembly (UNEA) feeds directly into the General Assembly and has universal membership of 193, all members of UN and other stakeholders groups. With the help of these members, this new entity provides a ground-breaking platform for leadership on global environmental policy.

Declaration and treaties

1. The Declaration of the United Nations Conference on Human Environment has been the first major attempt to consider the worldwide human impact on the environment as well as international effort to solve the challenges of environmental conservation and improvement.
2. The Rio Declaration on Environment and Development, also known as Rio Earth Summit, was a short declaration produced by the United Nations Conference on Environment and Development (UNCED) in 1992. It is made up of 27 concepts that are intended to guide future global sustainable development.
3. Environmental customary laws and general ideas such as precautionary principles and sustainable development are changing. The speed with which awareness of the global environment has reached the international political agenda has meant that customary law has tended to take second place in treaty law in the evolution of legal norms.
4. The international community has responded to the necessity to regulate activities that endanger the environment by signing treaties.
5. Many bilateral and multilateral environmental treaties are creating state's rights and obligations.

The natural growth of the population continually presents problems for the preservation of the environment and adequate policies and measures should be adopted.

Reasons for environmental crisis

- **Population Explosion** – The high rate of growth of the population adversely affects the environment. It increases demand for environmental resources but their supply is limited.
- **Rise in economic activities** – It leads to affluent consumption and production of goods and services. It produces wastes that exceed the absorptive capacity of the environment.

- Increased use of insecticides, pesticides, and chemical industries – Increased use of harmful insecticides, pesticides, and chemical fertilizers causes health problems for farmers and employees.
- **Rapid industrialization** – It has led to deforestation and depletion of natural resources. It leads to contamination of water due to the accumulation of increasing quantities of toxic substances and industrial wastes in the water bodies.
- **Urbanization** – The rapid rise of slum areas is caused by the migration of people from rural areas to urban areas. It leads to an excess burden on existing infrastructural activities.

Climate change response

It is also called 'global warming', which refers to the rise in the average surface temperature of the earth. The burning of fossil fuels, which releases greenhouse gases into the atmosphere, primarily carbon dioxide (CO₂), is the primary cause of global warming. Human activities like agriculture, deforestation also contribute to rising temperatures on the earth's surface.

- **UNFCCC (The United Nations Framework Convention on Climate Change)** is an umbrella for global climate change. The convention was adopted during the Rio Conference in 1992 which addressed the reduction of greenhouse gases that are not controlled by the Montreal Protocol. The objective of Article 2 of UNFCCC is to determine the global climate change response by the method of general goal and criteria for determining the time frame to achieve it. Article 3 of UNFCCC determines the principles that guide the implementation of the convention. It also shapes the commitments that have been formulated. Article 4 of UNFCCC formulates commitments for developed country parties only.
- **The Kyoto Protocol of 1997** set specific emission reduction targets for the developed countries. It shares the ultimate objective of the Convention to stabilize the atmospheric concentration of greenhouse gases (GHGs) at a level that prevents dangerous interference with the climate system. The aim behind this initiative is to enhance many of the commitments already in place under the convention. The focus lies on emission reduction commitments.
- **The Paris Agreement of 2015** establishes specific mandatory and voluntary commitments for mitigation of greenhouse gases, the adaptation of adverse impact on climate change, ensures support to developing countries from developed countries, and reports the implementation of various activities. It is based on voluntary contributions to reduce emissions, especially to address climate change adaptation and enhance reporting obligations. The Paris agreement works on a five-year cycle carried out by the countries. They aim to reach global peaking of greenhouse gas emission as soon as possible to accomplish a climate neutral world by mid-century.

India and its impact on climate change

India is one of the country's most vulnerable to climate change. Half of the Indian population is dependent upon the agriculture sector. Now, India is the third largest emitter of greenhouse gases after China and the United States. India's annual emissions of carbon dioxide are projected to increase almost 2.5 times between 2008 to 2035. The energy sector constitutes 8% of net carbon dioxide emission and industry sector 22%, agriculture 17% as waste sector constitutes 3% of the net carbon dioxide emission.

Climate change and energy are now the focus of local, state, and national attention around the world. Earlier, India was not responsible for the greenhouse emission as it had a low per capita emission rate, but now, India plays a key role in international negotiations and must implement a diversified policy to develop clean sources of energy, improve energy efficiency, and prepare for the impact of climate change.

Role of Judiciary

The principles under which laws of the environment work in India are developed through judicial proceedings of the Supreme Court and the High Courts. The court has played a vital role in interpreting laws and laying down the principle upon the interpretation of Indian statutes and the Constitution.

The judgments and orders of the Supreme Court cover a wide range of areas like air, water, solid waste, or hazardous waste. The Supreme Court has passed orders for the closure of polluting industries and harmful aqua farms, stopped illegal mining activities, cleaner fuel for vehicles, and protected forests and architectural treasures like the Taj Mahal.

Judgment given by various courts relating to environment laws are as follows –

1. ***M.C. Mehta v. Union of India (1986)***: The Supreme Court formulated the principle of ‘absolute liability for compensating the victims of pollution caused by hazardous or inherently dangerous industries. When any person is involved in any hazardous activities, he shall be liable even if the defendant took necessary precautions and has followed all the safety precautions. Absolute liability is an exception to strict liability.
2. ***Ganesh Wood Products v. State of Himachal Pradesh (1995)***: This ruling expanded the definition of forest and put a restriction on all non-forest operations on forest land that did not get prior consent from the central government. It also provided instructions to form an expert committee in each state to identify forests and dispose of timber.
3. ***M.C. Mehta v. Kamal Nath (1996)***, There was an attempt to divert the river’s flow from a motel’s arguments facilities. The Supreme Court intervened by recognizing the “Public Trust Doctrine”, in which governments have a responsibility to safeguard and conserve natural resources like rivers, lakes, forests, and other common property resources.

2.2 Environment Protection-Significant Concepts and Principles-

Sustainable development, Polluter Pays Principle, Precautionary Principle, Environment Impact Assessment- CG Notification, Eco-mark, Intergenerational and Intergenerational Duty, Public Trust Doctrine

Sustainable Development: Sustainable development refers to the principle of meeting present needs without compromising the ability of future generations to meet their own needs. It emphasizes the integration of economic, social, and environmental considerations to achieve long-term environmental sustainability and human well-being.

Polluter Pays Principle: The Polluter Pays Principle states that the party responsible for pollution or environmental damage should bear the costs of mitigation and remediation. It holds polluters accountable for the negative environmental impacts of their activities and encourages them to adopt cleaner technologies and practices.

Precautionary Principle: The Precautionary Principle states that when there are threats of serious or irreversible harm to the environment, lack of scientific certainty should not be used as a reason to postpone preventive measures. It highlights the need to take precautionary action in the face of potential environmental risks, even in the absence of complete scientific evidence.

Environment Impact Assessment (EIA): Environment Impact Assessment is a process of evaluating the potential environmental impacts of proposed development projects or activities. It involves assessing the project's likely environmental effects, identifying measures to mitigate adverse impacts, and promoting sustainable decision-making. The EIA process helps ensure that environmental considerations are integrated into the planning and decision-making processes.

Eco-mark: The Eco-mark is a certification or labeling system that identifies products or services that have a lesser environmental impact compared to similar products or services. It helps consumers make informed choices by indicating that the product meets specific environmental standards or criteria.

Intergenerational and Intergenerational Duty: The principle of intergenerational equity recognizes the responsibility of the current generation to preserve the environment and natural resources for the benefit of future generations. It emphasizes the need for sustainable development and the fair distribution of resources across generations.

Public Trust Doctrine: The Public Trust Doctrine is a legal principle that holds that certain natural resources, such as air, water, and forests, are held in trust by the government for the benefit of the public. It places a legal duty on the government to protect and preserve these resources for present and future generations.

These concepts and principles provide important frameworks for guiding environmental protection efforts. They help shape policies, regulations, and decision-making processes that aim to achieve sustainable development, ensure accountability, and safeguard the environment for the well-being of current and future generations.

International Environmental Law comprises various multilateral or bilateral agreements, Conventions, etc. The main concern of such international law is to protect the environment and thereby create certain legislation in view of it. In the mid-twentieth century, the onset of International Environmental Law was observed. Before this, there were only local movements or protests in order to protect the environment but there was no legislation. The source of International Environmental Law cannot be particularly mentioned in a kind. However, it can be stated that International Environmental Law has derived its roots from public international law.

Sources of International Environmental Law

The sources of International Environmental Law cannot be mentioned in a definite manner. However, after analyzing its way of making laws, development, etc; few sources can be carved out. They are:

- **Treaties**
- **Agreements**
- **Customs**

It has also been observed that developing international law is less traditional i.e. the laws made are based on present-day circumstances and are constantly changing with time, thus, it is not based solely on customs or traditions, and have more binding source; it is said so because the importance of environmental law is recognised worldwide and many countries have also made legislation regarding it.

Principles of International Environmental Law

Sovereignty and responsibility(स्वतंत्र राज्य और जिम्मेदारी)

The above-mentioned principle is quite contradictory to each other in apparent vision. It is so because the principle of sovereignty tells that every state has sovereign rights over its natural resources. On the other hand, the principle of responsibility tells that no damage should be made to the environment by the state. It is now clearly evident that one principle tells that one has sovereign power and another principle states certain rules the sovereign power has to maintain. Now the question which arises is whether such contradicting principles can be implemented or not.

In the 1992 Rio Declaration, it was stated that:

“States have, in accordance with the Charter of the United Nations and the principles of the international law, the sovereign right to exploit their own resources pursuant to their own environmental and development policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or areas beyond the limits of national jurisdiction.”

This shows that sovereign power is not absolute. It is subjected to certain restrictions. Therefore, here in this principle though the state enjoys a sovereign power over its natural resources its responsibility to not cause any damage to the environment is mandatory and not contradictory.

Over time, the duty to not cause any damage to the environment has been accepted worldwide and it has also been backed by international treaties and laws.

Now there are certain areas that are not under any jurisdiction of states like the high sea, In such cases what should one do? It is stated that here the principle of sovereignty may not apply but the principle of responsibility should always prevail. States should protect and conserve such environmental areas as common heritage.

Principle of good neighborliness and international cooperation

The principle of good neighborliness denotes the duty of states in view of not damaging the environment. The principle of international cooperation means that there should be an obligation where one cannot perform any such activities which are contrary to other states' rights or which might harm their environment. This principle of international cooperation is believed to be based on this legal maxim *sic utere tuo et alienum non laedas*; meaning one should use their property in such a manner that they do not cause any harm to another.

Besides avoiding any environmental damage, the principle of good neighborliness also states the duty of cooperation in identifying, investigating any damages. One might think that there already lies legislation among states regarding cooperation in the field of science, technology, socioeconomic, etc, then why does an international environmental law put emphasis on cooperation. This is so because the legislation regarding cooperation is not absolute. They are mostly limited to the cooperation regarding patents.

Some other benefits of the principle of good neighborliness and international cooperation are the functions of prior notification and consultation. Due to prior notification and consultation, other states might provide some vital information about the environment. For example in times of natural calamities and emergencies. Other states on request can also provide consultation in times of need.

Principle of preventive action

Under this principle, the states remain under the obligation of not causing any damage to the environment within their own territory. However, this principle should be differentiated from the duty to avoid environmental harm. This principle mainly states that there should be some preventive action in the state regarding reducing wastes, reducing liability, and increasing efficiency. Discharge of toxic substances which exceed the reasonable limit should be stopped, it should rather be stopped at an early stage so that irreversible damage to the environment is not inflicted upon. There are certain ways in which the states have tried to implement preventive action. The ways are:

- **Use of penalties**
- **Authorities established to particularly look into these preventive actions**
- **Establishing environmental standards**

It is believed that these ways are the golden ways in which irreversible damage can be stopped. This principle is recognised by various international instruments, treaties, etc. This principle is also reflected in the fifteen Rio Declaration.

“Where there are warnings of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” It was the basis of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, 1989.

Precautionary principle

This principle was first codified in the fifteen Rio Declaration. It was stated that *“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”*

Another Convention on Biological Diversity stated that *“where there is a threat of significant reduction or loss of biological diversity, lack of full scientific uncertainty should not be used as a reason for postponing measures to avoid or minimize such a threat.”* This principle was mainly carved out because there are certain elements present in our environment which can cause certain extreme damages. However, at times waiting for scientific clarity and proper judgment regarding the burden of proof, the damage on the other hand can become irreversible.

Now the question may arise why do the states need to wait for any scientific clarity when damage is already visible or is known. The answer is that whenever any states adopt any protective measures, the state has to prove beyond doubt that a specific substance or substances have caused damage, therefore states have to wait. But because of the precautionary principle, now states do not have to wait for proof of harm before taking any action. The first treaty to embody this principle was the 1985 Vienna Convention for the Protection of the Ozone Layer. Subsequently, it was widely addressed in various other instruments. However, it should be noted that the precautionary principle is always changing based on its circumstances, therefore, there is no precise formulae in its regard.

Principle of common but differentiated responsibility

The meaning of common but differentiated responsibility is that the common aim of all states should be protecting the environment, but having said that, certain states owing to their different ecological systems, physical appearances, geographical features might have to take more responsibility than other states. The basic idea of this principle is that all states should follow and obey international laws on the basis of equity and in accordance with their common but differentiated responsibilities and respective capacities. Two major principles of this principle are:

Common responsibility

It signifies that all the states must aim to conserve the environment together. They should not disregard their responsibility at any cost. They should not take advantage of their fellow states and not perform their own duty,

Differentiated responsibility

States comprised of heavy industries, factories have to bear more precautionary measures or perform actions compared to a state which is filled with flora and fauna. But each state has to keep in mind that while performing their differentiated responsibility, they cannot perform or form any such policies which are harmful or derogatory to their own state or other states.

The principle of sustainable development

The 1987 Brundtland Report first discussed the principle of sustainable development. It stated that the principle of sustainable development means a kind of development where the essential needs of especially the poor are met in the present without compromising the future generation's ability to meet their needs. The primary focus of sustainable development in this regard is environmental protection. This principle has been accepted regionally as well as globally. There are three elements of sustainable development. The three elements are:

- **Intergenerational Equity-** This means that each person must leave some kind of wealth (in this regard natural resources) for future generations, not less than what they have enjoyed in their lifetime so that the future generation can enjoy natural resources.
- **Sustainable use of natural resources-** This aims at judicious, wise, careful, or rational use of natural resources.
- **Integration of environment and development-** It is believed that without the integration of environment and development, the aim of sustainable development cannot be achieved. Thus, while making any environmental obligations, ecological and sociological development should also be taken into consideration. For example, in microeconomics, sustainable development would require the cost of environmental damage on the state which caused the damage.

In the case of *MC Mehta v Union of India and others (2001)*, the Supreme Court was analyzing the case of vehicle pollution and it was held that non-CNG vehicles would be stopped and the country should enhance the use of CNG vehicles. In this case, the Supreme Court also stated that the principle of sustainable development is an important feature of environmental law.

The principle of absolute liability

The principle of absolute liability is implemented in a legal aspect in environmental law. It is applied in the environmental law to assess the risks of environmental law, and thereby the liability can be given to the person for unlawful acts. In a lot of states, the procedure of lawsuits regarding environmental cases or how one should file cases are not properly stated. In such cases compensation for the damage is hard to get. However, the application of absolute responsibility in the environmental law system makes it easier to get compensation.

Polluter Pays principle

The basic meaning of this principle is that those who commence the act of pollution shall bear the cost of its management and prevention so that it does not harm the environment and human beings. The 1992 Rio Declaration has recognised the polluter pays principle. The primary arena of this principle is land, air, and water. We all know how much greenhouse gases have affected our environment. This principle can be applied to greenhouse gases. The principle can be implemented through a carbon price. The carbon price is a small charge which is paid by greenhouse gas emitters equivalent to the corresponding potential cost caused through future climate change, thus forcing emitters to internalize the cost of pollution. The carbon price can be paid in two ways:

- In form of the carbon tax (direct method).
- In the form of quota, here a certain limit is set and beyond it, the price has to be paid.

In the landmark case of *MC Mehta v Kamal Nath (1996)*, the Court established the polluter pays principle in India. It was observed that the Motel Company encroached upon 27.12 bighas of land which also included forest land. This encroachment caused huge problems as there was constant movement of bulldozers and earthmovers to turn the course of the river for almost 5 months. This caused floods in the river and property worth 105 crores was destroyed. The Court held that the Motel Company should pay compensation for the destruction of the environment, thereby establishing the polluter pays principle.

Egocentrism

Before discussing the principle of egocentrism, let us understand what is the traditional concept of human beings towards the environment. Traditionally and even from a religious point of view, it has been observed that some people or groups of people believe that they are in dominion over the environment. Therefore, they can do whatever they like towards it. However, egocentrism denotes a nature-centered concept. Here, it is stated that the human species are the consumers of almost everything in nature. They have the responsibility of conserving nature irrespective of the fact that they are getting any benefit from it or not. The ill-treatment of humans towards the environment is very dangerous as they are capable of harming the environment in such a way that the damage becomes irreversible. Thus, humans should take care, protect and conserve the environment.

MODULE 3:

3.1 The Water (Prevention & Control of Pollution) Act 1974-

Definitions,

Establishments of - Central Pollution Control Board (S. 3)

The State Pollution Control Board (S. 4)

Joint Board (S. 13)

Functions of Central Pollution Control Board (S.16),

The State Pollution Control Board (S. 17)

Prevention & Control of Water Pollution (S.19 – S. 33),

Penalties & Procedure (S.41- S. 50)

Introduction

The Act came into force in 1974 and is applicable to the states of Assam, Bihar, Madhya Pradesh, Gujrat, Haryana, Tripura, West Bengal, Jammu and Kashmir, Rajasthan, Kerala, and the union territories. It could also be adopted by any state through a resolution passed declaring to adopt the Act. The Water (Prevention and Control) Act, 1974 was introduced to prevent and control water pollution and to restore and maintain the wholesomeness of water for the establishment.

The Act also confers some powers to the established bodies such as the central board and the state board to control pollution of the water bodies.

Definitions

Section 2 of the Act contain certain definitions:

1. “ Board “ means either the central board or the state board.
2. Section 2 (e) of the Act defines what is pollution, according to Section 2(e) pollution means any contamination of water or alteration of the physical, chemical and biological properties of water or disposing of any sewage waste in water which is likely to cause nuisance or renders such water to be harmful to public health or safety or to domestic, industrial or other legitimate use or harmful to the life and health of the animals and aquatic plants.
3. Includes- watercourse (flowing or dry), inland water whether natural or artificial, subterranean water or sea or tidal waters as the state may prescribe from time to time.
4. According to Section 2 (b) Central Board means Central Pollution Control Board.
5. According to Section 2 (h) State Board means State Pollution Control Board.

Agencies for controlling Water Pollution

There are two agencies set up as per the Act for controlling and preventing water pollution.

Central Board- Central Pollution Control Board

Constitution and Composition (Section 3)

The Central Government through a notice in the official gazette has the power to assign or set up a Central Board named as Central Pollution Control Board. As far as the composition of the board is concerned the Central Board is to contain the following members:

1. A chairman who has the knowledge or has practical experience in dealing with cases relating to environmental protection. The chairman is to be appointed by the central government only.
2. Not more than 5 officials to represent the central government.
3. Not more than 5 members to be nominated by the central government from the members of the State Board.
4. Maximum 3 members appointed by the central government to represent the interests of agriculture, fisheries, trade or any other interest as the government may seem fit.
5. 2 persons to represent the companies or corporations owned, controlled or by the central government.
6. A full-time member secretary having complete knowledge, experience and qualification of scientific management and prevention of environmental pollution.

Functions of Central Board (Section 16)

1. Advise the Central Government on any matter concerning the prevention and control of water pollution.
2. Coordinate the activities of the State Boards and resolve disputes among them.
3. provide technical assistance and guidance to the State Boards, carry out and sponsor investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution.
4. Plan and organize the training of persons engaged or to be engaged in for the prevention, control or abatement of water pollution on such terms and conditions as the Central Board may specify.
5. Organize through mass media a comprehensive program regarding the prevention and control of water pollution.

State Board- State Pollution Control Board Constitution and Composition (Section 4)

1. The state government through an official notice in the Gazette has the power to assign or set up a state board named as State Pollution Control Board. The composition of the state board is as follows:
2. A Chairman who either has the knowledge or some experience in dealing with cases relating to environmental pollution.
3. Not more than 5 members appointed by the state government to represent the government.
4. Not more than 2 persons by the state government who are functioning as members of the local authorities within the state
5. Not more than 3 persons nominated by the state government to represent the interest of fisheries, agriculture, trade and any other interest as the government may seem fit.
6. 2 person from companies, corporations which are either controlled, owned or managed by the state.
7. A member secretary who has the knowledge, qualifications, and experience in dealing with cases pertaining to environmental pollution.

Functions of State Board (Section 17)

1. To plan a comprehensive program for preventing and controlling the pollution of the wells and streams in the state and to secure its execution.
2. To advise the State Government on matters relating to prevention and controlling water pollution.
3. Collaborating with the central board to train persons employed or to be employed in preventing, controlling water pollution.
4. To lay down, modify the effluent standards of sewage and trade effluents and for the quality of receiving water resulting from the discharge of effluents and to classify waters of the state.
5. To evolve methods of utilizing the sewage and suitable trade effluents in agriculture.
6. The state Board has the authority to set up laboratories to enable the board to perform its function efficiently, including collecting samples of water from any stream or sewage or trade effluents.

Prevention and Control of Water Pollution

According to Section 19 of the Act, the state board has the power to limit the territorial jurisdiction of any order passed by it in matters relating to prevention and controlling water pollution. This means that the orders passed by the state board will only apply in the areas that are affected by water pollution .it is up to the state board to determine which area is to be declared

water polluted and which is not, this can be done by making reference to a map or making reference to a line of any watershed or the boundary of any district.

According to Section 20 of the Act, the state board also has the power to inspect any land, conduct surveys or gauge in an area if it thinks fit for controlling or preventing water pollution. It can also ask any company, industry to dispose of the information pertaining to the construction, installation, and operation of its establishment. Section 21 of the Act empowers the state board or any employee on its behalf to analyze any stream or well for the purpose of preventing and controlling water purpose.

The state board also has the power to stop any person to enter into any poisonous, noxious or polluting matter determined in accordance with the standards laid down in the Act. According to Section 25, no person is allowed to set up an industry or start a new operation or processor to any treatment of sewage without prior approval of the state board, the state board may grant him a notice of approval and only after that he is entitled to continue or start a new business.

If a person starts a new operation before prior approval of the board, the board may impose any conditions as it may think fit for not obtaining notice of approval. Section 27 of the Act gives power to the state board not to grant any notice for setting up an industry or continuation of an existing operation. If the company has been granted permission with some conditions attached, the state board has the power to review those conditions which it attached before giving the notice of approval.

Joint Board

An agreement may be entered into by the state government of one state with the state government of another state to set up a joint Board. Similarly, the Central Government and the government of other union territories can also enter into an agreement for constituting a joint board.

Composition of Joint Board (Section 14)

A joint board consists of the following members namely:

1. A chairman who has the knowledge, experience, and qualifications in matters relating to prevention and controlling environmental pollution.
2. 2 members from each state government nominated by their respective state to represent the state.
3. A nonofficial appointed by each state to represent the interests of agriculture, fisheries, trade or any other interest of the participating state.
4. 2 members from the companies, corporations nominated by the central government which is owned, controlled or managed by the participating state.
5. A full-time member secretary who has the required skills, experience and qualifications in science, engineering or management aspect of controlling and preventing pollution to be appointed by the central government.

Disqualification of Members (Section 6)

Section 6 of the Act mentions the grounds on which a member can be disqualified from being a member of the board:

1. A person who is judged insolvent or has not paid his debts or has compounded with his creditors cannot become a member.
2. A person of unsound mind or who has been convicted of such an offense which according to the central government or state government may involve moral turpitude.
3. If a person is holding any office of profit or is a salaried employee of any company, firm which is connected with the board in that situation also he can be a member of any board.

4. If a member has misused his powers by virtue of being a member or holding any position in connection with the board, then the central government or for that matter the state government may disqualify that member in the general interest of the public.

Meetings of the Board (Section 8)

According to Section 8, in every three months the board has to conduct a meeting and review all the laws and the orders implemented by it, apart from that it also has to discuss the future plan of Action, if the chairman of the board thinks that an urgent meeting is required to address a particular issue then in that case meeting among the members of the board can be held at any time as prescribed by the chairman.

Constitution of the committees (Section 9)

Section 9 permits the central or state board to constitute a committee of members either from the existing members or totally new members who do not have any connection with the company for the performance of the duties laid down in the Act.

Members of the committee shall meet at any time or at any place and shall observe any rule or procedure as it may consider necessary for the performance of its duties. The members will be paid fees, allowances for attending meetings and performing functions of the board from time to time.

Provision of appeals (Section 28)

Any person who is aggrieved by the decision of the state board made under section 25 to section 227, has 30 days time to make an appeal in the concerned appellate authority as established by the state government. The appellate authority may consist of a single person or three people as the government may think fit.

Penalties

1. If any person fails to comply with the orders of the board under subsection 2 and 3 of Section 20 then in that case on conviction he is punishable for imprisonment for 3 months or fine or both.
2. If the person fails to comply with orders of the board under clause e of subsection 1 of Section 32 or with subsection 2 of Section 33 then, in that case, the person would be punishable with imprisonment for 6 months extending to 6 years or a fine or both.
3. Apart from the above-mentioned penalties. Section 42 mentions penalties for different kinds of Acts namely:
4. If any person removes, destroys or pull down any notice put up by the board.
5. If someone obstructs the member of the board or any other person who is Acting under the board.
6. If a person fails to produce any information as required by the member of the board for the performance of his duties.
7. Or if he gives any information to the members which he knows to be false.

Then In all the above Acts if the person is convicted he would be punishable by imprisonment for a maximum period of 3 months or fine that may extend up to 10,000 rupees or both.

Establishment of Central Pollution Control Board (CPCB) (Section 3):

The Act establishes the Central Pollution Control Board as a central authority responsible for coordinating and implementing measures for the prevention and control of water pollution at the national level.

Establishment of State Pollution Control Board (SPCB) (Section 4):

The Act mandates the establishment of State Pollution Control Boards in every state to oversee the prevention and control of water pollution within their respective jurisdictions. The SPCBs work in coordination with the CPCB.

Joint Board (Section 13):

The Act allows the Central and State Pollution Control Boards to establish Joint Boards to perform functions jointly or to resolve any dispute between them.

Functions of Central Pollution Control Board (Section 16):

The CPCB is tasked with several functions, including advising the central government on matters related to the prevention and control of water pollution, coordinating with SPCBs, conducting research and studies, and setting and revising standards for the quality of water.

Functions of State Pollution Control Board (Section 17):

The primary functions of the SPCBs include planning and executing programs for the prevention and control of water pollution, inspecting and monitoring pollution sources, and enforcing the provisions of the Act within their respective states.

Prevention & Control of Water Pollution (Section 19 – Section 33):

These sections outline the various measures to prevent and control water pollution. They include the requirement for obtaining consent for establishing and operating industries, regulation of discharge of pollutants into streams, powers of entry and inspection, power to take samples, and enforcement of effluent standards.

Penalties & Procedure (Section 41 – Section 50):

The Act specifies penalties for offenses committed under its provisions. It includes fines and imprisonment for violations such as non-compliance with the Act's requirements, obstruction of officials, and contravention of standards. The Act also outlines the procedure for conducting inquiries, issuing notices, and taking legal actions for offenses.

The Water (Prevention & Control of Pollution) Act 1974:

Provides a legal framework for regulating and preventing water pollution in India. It establishes central and state bodies responsible for enforcing pollution control measures, sets standards for water quality, and imposes penalties for non-compliance. The Act plays a vital role in protecting and conserving water resources and ensuring the sustainable use of water.

3.2 The Air (Prevention & Control of Pollution) Act 1981 -

Definitions,

Establishments of - Central Pollution Control Board (S. 3)

The State Pollution Control Board (S. 4)

Constitution of State Board (S. 5)

Functions of Central Board (S.16)

Functions of State Boards (S. 17)

Prevention and Control of Air Pollution (S.19- S. 33A)

Penalties and Procedure (S. 37- S.46)

Many of us must be aware of the plight of Delhi residents in the winter. The winter fog and the smoke from stubble burning, vehicles, carried by the incoming northern winds, combine to make Delhi a 'gas chamber'. In 2019, Delhi was ranked as one of the most polluted major cities in

the world. In these circumstances, we must examine the law framed by India to combat air pollution and whether it is enough to combat air pollution.

What was the need for this Act?

Sweden first suggested to the United Nations that there should be a global conference to discuss and prevent pollution and degradation of natural resources. Therefore, with the passing of the General Assembly Resolution 2398, the United Nations Conference on the Human Environment was held in Stockholm in June 1972. In this conference, it was decided that the countries would undertake steps to preserve the natural resources, which also includes air. Accordingly, the Indian government enacted specific laws under Article 253 of the Constitution for the preservation of natural resources and the law enacted for air preservation was The Air (Prevention and Control of Air Pollution) Act, 1981.

The Act's Preamble states that this Act is for the prevention, control and abatement of air pollution and the burden of fulfilling such purposes falls on the Boards established under this Act.

What is the scope of this Act?

This Act applies to the whole of India. The Act contains certain definitions which fall under the scope of this Act. Knowing these definitions is important as they will help to understand what qualifies as air pollution according to Indian law so that air polluters can be punished under this Act.

What is an 'air pollutant' and what is 'air pollution'?

- Section 2(a) defines 'air pollutant' as any solid, liquid or gaseous substance that may be harming or injuring the environment, humans, other living creatures, plants or even property. Through a 1987 Amendment, the noise was also included in the list of substances that are deemed to be harmful to the environment. Therefore, this Act also provides for the regulation of noise pollution.
- Section 2(b) defines 'air pollution' as the presence of any air pollutant in the atmosphere.

What Boards are set up under this Act?

- Section 2(f) classifies the Boards to be set up under this Act under two categories: Central and State Boards.
- Section 2(g) defines 'Central Board' as being the same as the 'Central Pollution Control Board' which has been constituted under Section 3 of the Water (Prevention and Control of Pollution) Act 1974, which stipulates that this Board shall be set up by the Central Government of India, for the purposes of the Act. This Board's powers extend to the whole of India.
- Section 6 states that in the case of Union Territories, the Central Board shall exercise the powers of a State Board under that Act, or it may even delegate these powers or functions to any person or body of persons.
- Section 2(o) defines 'State Board' as a Board set up in those states where the Water (Prevention and Control of Pollution) Act, 1974 is in effect and where the State Governments have decided to set up these Boards. This Act also applies to States where the Water (Prevention and Control of Pollution) Act 1974 is not in effect. 'State Board' is the same as the 'State Pollution Control Board'.
- Therefore, we observe that while the Water (Prevention and Control of Pollution) Act 1974 in the first instance, applies to only those States in which it has been given effect but the Air (Prevention and Control of Air Pollution) Act 1981 applies to the whole of India in the first instance.

Constitution of the Boards

Section 3 and Section 4 of this Act state that the appropriate powers and functions shall be given to the Central Board and the State Boards respectively, and they shall exercise these powers and not go outside the ambit of these powers.

Constitution of Central Pollution Control Board

Section 3 of the Water (Prevention and Control of Pollution) Act, 1974 explains the constitution of the Central Pollution Control Board-

- It shall have a full-time Chairman, having special knowledge and practical expertise in matters of environmental protection and having knowledge and experience in administering institutions dealing with such matters. This Chairman will be nominated by the Central Government.
- It shall have a full-time Secretary, who shall have the qualifications, knowledge and experience of scientific, engineering and management aspects of environmental protection. The Secretary will be appointed by the Central Government.
- It shall have not more than five officials nominated by the Central Government to represent that Government.
- It shall not have more than five members nominated by the Central Government, chosen from among the members of the State Boards.
- It shall not have more than three officials who represent the interests of the fishery, agriculture, or any other industry or trade, which the Government may think fit to be represented.
- It shall have 2 persons from the companies or corporations, owned, managed or controlled by the Central Government, nominated by that Government.

Constitution of State Pollution Control Board

Section 5(2) of the Act explains the constitution of a State Board-

- A person, nominated by the State Government, who has special knowledge and practical experience of dealing with issues related to environmental protection, shall serve as the Chairman of the State Pollution Control Board. This Chairman may be whole-time or part-time. This decision will be left to the discretion of the State Government.
- The Board shall further constitute of not more than five officials, nominated by the State Government, to serve as representatives of that Government.
- Not more than five people from the local authorities, nominated by the State Government.
- Not more than three officials nominated by the State Government, who are believed to be representing the interests of the industries of fishery, agriculture or any other industry or trade which the Central Government thinks ought to be represented.
- Two persons from companies or corporations owned, managed or controlled by the State Government, and are nominated by that State Government.

Powers and functions of the Boards

Functions of the Pollution Control Boards

Functions of the Central Board

Section 16 lays down the functions of the Central Board-

- The Board shall make efforts for the prevention, abatement and control of air pollution in the country and may advise the Central Government on the same.
- It shall plan and implement a nationwide programme for the prevention, control and abatement of air pollution.
- It shall coordinate the activities of the States and shall resolve the disputes that arise between them.

- It shall provide technical assistance to the Boards, carry out investigations and research relating to air pollution.
- It shall plan and implement training programmes for the persons to be involved in those programmes.
- It shall help combat air pollution through a mass media programme.
- It shall collect, compile and publish statistical data relating to air pollution and shall also prepare manuals, codes or guides relating to measures to combat air pollution.
- It shall lay down standards for the quality of air and shall perform other functions as prescribed.
- The Board shall also set up a laboratory or multiple laboratories to enable the Board to perform its functions effectively.

Functions of the State Pollution Control Boards

Section 17 lays down the functions to be performed by the State Boards-

- The State Board shall plan and implement comprehensive programmes for prevention, control or abatement of air pollution. It shall also advise the State Government on such matters.
- It shall collect and disseminate information regarding air pollution. It shall organise training and mass awareness programmes regarding air pollution control, prevention and abatement.
- It shall inspect, at reasonable times, any control equipment, industrial plant or manufacturing process and give orders to the people in charge to further the purposes of combating air pollution.
- It shall inspect and assess the air quality at designated air pollution control areas as it may think necessary.
- It shall lay down standards for the emission of air pollutants into the atmosphere from automobiles or industries, or any other pollutant from any source. However, a ship or aircraft cannot come into the ambit of a source.
- The State Boards shall also advise the State Government regarding the suitability of any location which is to be used for setting up any industry, keeping in mind the air quality which would be impacted if that industry is set up.
- The Boards shall also set up labs in their States, to enable the State Board to perform its functions effectively.

Powers of the Boards

- Power to give directions:** Section 18 states that the Central Board shall follow the directions of the Central Government while the State Boards shall follow the directions of the respective State Governments. Where a decision of the Central Board and a State Government direction are conflicting, the matter shall go to the Central Government for resolution.
- Where the Central Government thinks that a grave emergency has arisen due to the State Board defaulting in complying with the orders of the Central Board, then it can perform the functions of the State Board.

Section 31A prescribes that the Central Government may issue directions to any person, officer or authority and such party shall be bound to follow the directions. These instructions should be within the powers and functions of the Board, and include-

1. Closure, prohibition, regulation of any industry, process or operation.
2. Stoppage or regulation of supply of water, electricity, or any other service.

Power to declare air pollution areas: Section 19 of the Act states that the State Government, after consulting the State Board, may declare an area within the State as an 'air pollution area'. The State Government may also order for the extension or reduction of an air pollution area or may even merge one or more areas to make a new pollution area or any part or parts thereof.

The State Government after consulting the State Board, may also by notification in the Official Gazette, prohibit the use of any fuel or appliance that may cause or is likely to cause air pollution. The State Government may also prohibit the burning of any material (which is not a fuel) if it causes or is likely to cause air pollution. This is also done after consultations with the respective State Board.

Power to give restrictions for ensuring standards for emissions from automobiles: Section 20 states that the State Government may, after consulting the State Board, issue instructions to the authority responsible for the registration of vehicles under the Motor Vehicles Act 1939 and such authority shall be bound to follow these instructions. This is done to ensure that the standards of emission prescribed under Section 17(1)(g) are complied with.

Restrictions on use of certain industrial plants: Section 21 talks about setting up of industrial plants in compliance and with the consent of the respective State Board. It prescribes the procedure for making an application to the Board, for which a decision has to be made and intimated to the applicant regarding whether he has permission to set up the plant or not. The conditions are also given for setting up the plant. These should be complied with, otherwise, the permission for the plant can be revoked. The conditions under Section 21(5) are-

1. The necessary control equipment as stipulated by the State Board has to be installed in the plant. This equipment has to be changed according to the decisions and instructions of the State Board. The equipment has to be kept in good running condition.
2. Chimneys should be erected when and where the Board so directs.

Persons carrying on industry, etc., not to allow emission of air pollutants in excess of the standard laid down by State Board: Section 22 states that no person heading an industry shall emit any excess amount of emissions than the standards set out by the State Board.

Power of Board to make application to Court for restraining a person from causing air pollution: Under Section 22A, when the Board believes that there is excess emission being caused by a person running an industrial plant in any air pollution area, then the Board can make an application before the Court to restrain him from doing the same.

Furnishing of information to State Board and other agencies in certain cases: Under Section 23, where any emission over the prescribed limit occurs due to an accident or unforeseen event, the person operating the industrial plant shall report about the facts of the same to the State Board and other relevant authorities, to which they shall take remedial action as soon as possible.

Power of entry and inspection: Under Section 24, a person authorised by the State Board shall have the power to gain entry into any place for carrying out the performance of any of the functions assigned to him. He may examine and inspect any control equipment, industrial plant, record, register or any other document or object or any place which he has reason to believe was used for the commission of any offence under this Act. the person in charge of these equipment, plants, record etc shall assist the person from the State Board to perform the functions. Not doing so, will be an offence.

Power to obtain information: In Section 25, it is stated that the State Board or any person empowered under it shall have the power to call the person operating such plant or control

equipment about any information regarding the type of air pollutant and the amount of emissions released by such plant or equipment. It shall also carry out inspections for verifying the same.

Power to take samples from air or emission and procedure to be followed: Section 26(1) states that samples of air or emissions may be taken from any chimney, flue, duct or any outlet as prescribed. The samples shall be admissible in legal proceedings only on the compliance of conditions laid down in Section 26(3) and 26(4). These are-

1. The person taking the sample shall notify the occupier or agent of such occupier, of the place from where the sample has been taken.
2. The sample shall be collected in the presence of the occupier or his agent.
3. The sample shall be placed in a container, marked and sealed. The container shall be signed by both the person taking the sample and the occupier or his agent. This sample shall be sent to labs for testing and analysis.

In a condition where the occupier or agent willfully absents himself, then the sample shall be put into the container and be signed by the person taking the sample only. In a condition where the sample is being taken in the presence of the occupier or agent, and such occupier or agent refuses to sign the container, the person taking the sample shall sign the container.

Penalties and procedures under this Act

Penalties

Under Section 37, whoever fails to comply with the provisions of Section 21, 22 and the directions issued under Section 31A, can be sentenced to imprisonment for a term of one year and six months. This sentence can be extended to six years and with fine, if the requisite compliances under the aforesaid sections are still not carried out, with an additional fine of five thousand rupees every day.

Under Section 38, penalties for certain acts are laid down. These acts are-

1. Destroying, defacing, removing etc any pillar, post, stake or notice fixed in the ground under the authority of the Board.
2. Obstruction of any person acting under orders of the Board from exercising his powers and functions under the Act.
3. Damaging any property belonging to the Board.
4. Failure to furnish information to an officer or any employee of the Board, which is required by such officer or employee.
5. Failure to inform about the excess release of emissions than the standard set by the State Board. Even an apprehension of the release of excess emissions should be informed to the State Board.
6. Giving false statements to Board authorities when furnishing information.
7. Giving false information to the Board, for getting permission under Section 21 i.e. permission for setting up industrial plants.

These are offences that shall be punishable with imprisonment which may extend to three months with fine, which may extend to ten thousand rupees or both.

- Under Section 39, any order or direction which has been flouted, and for which there is no punishment anywhere in the Act, shall be punishable with three months imprisonment or fine of three thousand rupees or both. If failure continues, there shall be a fine of an additional five thousand rupees every day.
- Section 40 of this Act talks about offences by companies. If an offence is committed by a company, every such person shall be deemed to be guilty, who is directly in charge of the company, who was responsible to the company for the conduct of its business as well as the company itself. He shall be punished according to the provisions of this Act. However, where such an offence was committed without the knowledge of such person, or where he

had made full efforts and due diligence to stop these offences, this person shall not be held liable.

- Section 40(2) further states that where the offence was committed after taking the consent of the director, manager, secretary or other officer or happened due to the neglect of the aforesaid people, then they shall be deemed guilty and can be punished according to the Act.

Section 40 includes two definitions-

1. Company: Any corporate body, including a firm or another association of individuals.
2. Director: In relation to a firm, it means a partner in the firm.

Section 41 talks about offences committed by governmental departments. Where any government department has committed an offence under this Act, then the head of that department shall be liable to be proceeded and accordingly punished. However, if the Head of Department had no knowledge of the committing of these offences, or had practiced due diligence to prevent these offences from happening, he shall not be held liable.

Furthermore, as provided under Section 41(2), if such Head of Department had consented to, or neglected to prevent, the commission of these offences, then such person shall be liable to be proceeded against and punished accordingly.

Procedures

Sections 42 to 46 cover procedures. Section 42 states that no suit, prosecution or another legal proceeding shall lie against the government, any officer of the government or any member, employee or officer of the Board, where the actions are done by such body or persons are done or intended to be done in good faith in pursuance of this Act.

Section 43 states that the Court shall take cognizance of only those offences where the complaint is made by-

1. A Board or any officer authorized under it
2. Any person who has given notice of not less than sixty days, of the alleged offence and his intention to make a complaint to the Board or an officer authorised by it.

No court inferior to that of a Metropolitan Magistrate or Judicial Magistrate of First Class shall try any offence punishable under this Act.

- Section 44 states that all members, officers and other employees shall be deemed to be acting as public servants under Section 21 of the Indian Penal Code 1860.
- Section 45 states that the Central Board shall provide information in the form of data, statistics, reports or another form of information etc to the Central Government and the State Board shall also provide information in these forms, both to the Central Board and the State Government.
- Section 46 involves a bar of jurisdiction. It states that no civil court shall have jurisdiction in any matter which an Appellate Authority formed under this Act is empowered by this Act to decide, nor should an injunction be granted in respect of any action taken under the pursuance of the powers of this Act.

Judicial pronouncements and case studies regarding clean air

M.C. Mehta v. Union of India 1991 SCR (1) 866 (Vehicular Pollution Case)

- In this case, a writ petition was filed by M.C. Mehta regarding air pollution caused due to vehicular emissions. He prayed for the Court to pass appropriate orders to prevent pollution.
- The Court held that environmental protection is the responsibility of the State as enshrined in the Directive Principles of State Policy and Articles 48A and 51A of the Constitution. The Supreme Court observed that the right to a healthy environment was a basic human right and this included the right to clean air, covered under the ambit of Article 21 of the

Constitution. In this way, the Court expanded the scope of Article 21 to include the right to a healthy environment and clean air under the fundamental rights.

- This paved the way for the introduction of lead-free petrol supply in Delhi and paved the way for the introduction of compressed natural gas (CNG). The Court also assisted in setting up a committee that was not just aimed at litigation but also finding long term solutions to the air pollution problem in Delhi.
- Similarly, in *Subhash Kumar v. State of Bihar* 1991, it was held that right to life under Article 21 included the right to a healthy and safe environment, which in turn included the right to pollution-free air and water for the full enjoyment of life. It was held that municipalities and other governmental bodies had an obligation of taking positive measures to ensure a healthy environment.

The curious case of Delhi

- Air pollution in Delhi has been a major problem for many years but started coming into the limelight in the 1990s. With the advent of the 1981 Act, pollution control boards were set up and the number of legislations on the environment increased.
- In 1996, the Supreme Court issued a suo moto notice to the Delhi government, asking it to submit an action plan for clean air. The cases instituted by M.C. Mehta and the general public furor over the state of the air further aggravated the issue. The Environment Pollution (Prevention and Control) Authority (EPCA) was set up along with the National Clean Air Programme (NCAP).
- On the basis of a report of the EPCA, the Supreme Court accordingly issued orders for vehicles to run on compressed natural gas (CNG). This was a major success. However, in the coming years, the number of vehicles increased from 4.24 million in 2004 to more than 10.8 million in March 2018, in addition to an increase in stubble burning and construction activities (many of which are illegal).
- Over the years, monitoring stations have been set up across Delhi to measure the amount of particulate matter in the air. Public awareness and efforts have definitely increased, with measures like Odd-even scheme and Supreme Court orders on cracker bans, construction activities bans; being implemented.
- In 2016, after the heavy smog wreaked havoc in Delhi, the Supreme Court again asked the national government to make a plan to combat such episodes of air pollution. This programme came to be known as the Graded Response Action Plan (GRAP).
- This programme entails the identification of high-pollution areas within Delhi through monitoring and measuring air quality, and then identifying the problems and formulating local actions for those areas.
- There is no doubt that Delhi still suffers from an air crisis every year. One must understand that this occurs due to a host of factors which need mass action.

Establishment of Central Pollution Control Board (CPCB) (Section 3):

The Act establishes the Central Pollution Control Board as a central authority responsible for coordinating and implementing measures for the prevention and control of air pollution at the national level.

Establishment of State Pollution Control Board (SPCB) (Section 4):

The Act mandates the establishment of State Pollution Control Boards in every state to oversee the prevention and control of air pollution within their respective jurisdictions. The SPCBs work in coordination with the CPCB.

Constitution of State Board (Section 5):

This section specifies the composition of the State Pollution Control Boards, including the appointment of members and their qualifications.

Functions of Central Pollution Control Board (Section 16):

The CPCB is responsible for various functions, including advising the central government on matters related to the prevention and control of air pollution, coordinating with SPCBs, conducting research and studies, and setting and revising standards for emissions and ambient air quality.

Functions of State Pollution Control Board (Section 17):

The primary functions of the SPCBs include planning and executing programs for the prevention and control of air pollution, inspecting and monitoring pollution sources, and enforcing the provisions of the Act within their respective states.

Prevention and Control of Air Pollution (Section 19 – Section 33A):

These sections outline the various measures to prevent and control air pollution. They include the regulation of emissions from industries and automobiles, establishment of pollution control areas, prohibition on the use of certain fuels, power to take samples and conduct tests, and enforcement of ambient air quality standards.

Penalties and Procedure (Section 37 – Section 46):

The Act specifies penalties for offenses committed under its provisions. It includes fines and imprisonment for violations such as non-compliance with emission standards, obstruction of officials, and contravention of the Act's requirements. The Act also outlines the procedure for conducting inquiries, issuing notices, and taking legal actions for offenses.

The Air (Prevention & Control of Pollution) Act 1981: provides a legal framework for regulating and preventing air pollution in India. It establishes central and state bodies responsible for enforcing pollution control measures, sets standards for emissions and ambient air quality, and imposes penalties for non-compliance. The Act plays a crucial role in protecting public health, safeguarding the environment, and ensuring the sustainable management of air resources.

3.3 The Environment (Protection) Act, 1986 -

Definitions

General Powers of the Central Government (S.3)

Prevention, Control and Abatement of Environmental Pollution (S.7 – S.14)

Penal Provision (S.15-S.17)

In wake of the Stockholm Conference held in 1972 that advocated environmental protection at the international level and was one of the most devastating incidents of all time, the Bhopal Gas Tragedy of 1984 highlighted an urgent need for a comprehensive law with respect to environmental protection, domestically, the need for Environment (Protection) Act, 1986 was felt. The preamble of the Act states the objective of the Act to be the protection and improvement of the environment. It seeks to protect human beings, other living creatures, plants, and property from environmental hazards. It extends to the whole of India and aims to prevent, control, and abate environmental pollution. Even though we had the Water Act, 1974, the Air Act, 1981, and the Indian Forest Policy, 1988, there was a pressing need for general legislation with stringent penal provisions in order to safeguard the environmental rights.

Background of the Environment Protection Act

The concern for the environment in India is nothing new. From ancient times we have believed in '*Vasudhaiva Kutumbakam*', i.e. the entire world is one family. Indians have believed that all the creatures on the Earth are a family, including all the plants, animals, and microorganisms. Our present-day Constitution also provides testimony to our old principles. Some of them are as follows:

1. By the 42nd Amendment Act, Article 48A was added as a part of the Directive Principles of State Policy which stated that it was the state's responsibility to make efforts in order to "*protect and improve the environment, and to safeguard the forests and wildlife of the country.*"
2. Article 51A(g) declares that it is the fundamental duty of each and every citizen of the country to "*protect and improve the natural environment including the forests, lakes, rivers, and wildlife and to have compassion for living creatures.*"
3. Our judiciary has outlined in a number of judgments that Article 21, which guarantees the right to life and dignity, also encompasses the right to live in a healthy and safe environment. In the case of *Subhash Kumar v. the State of Bihar*, it was observed that the right to get pollution-free water and air is a fundamental right under Article 21.
4. Article 253 of the Indian Constitution empowers the Parliament to bring any legislation to give effect to any international treaty, agreement, convention, or decision taken at a conference. It was with the help of Article 253 that the Indian Parliament enacted the Environment (Protection) Act, 1986 to give effect to the decisions taken at the UN Conference on the Human Environment held in Stockholm in 1972.

Stockholm Conference, 1972

The United Nations Conference on Environment, in Stockholm was the first Conference held at the world level that took the environment as a serious international concern. It led to the formulation of the Stockholm Declaration and Action Plan for the Human Environment and other numerous resolutions that aimed at sound management of the environment. The Declaration basically consisted of 26 principles that mainly aimed at facilitating dialogue between industrialized and developing nations on the matters of economic growth, air and water pollution, and the overall well-being of the people across the globe. One of the most impactful results of this conference was the formulation of the United Nations Environment Programme. India also participated in the conference and vociferously raised its concern for the environment. In order to implement the decisions adopted at this conference, the Indian Parliament exercised its powers under Article 253 to enact the Environment (Protection) Act, 1986.

Objectives of the Environment Protection Act

The following are the main objectives behind bringing this legislation:

1. To implement the significant decisions taken, relating to environment safety and protection, at the United Nations Conference on the Human Environment held in Stockholm in June 1972.
2. India already had some legislation related to different aspects of the environment but there was a need for comprehensive legislation that filled the gaps in the existing laws. Thus, it was enacted to bring general legislation in environment protection and cover other major areas of environmental hazards that were previously uncovered.
3. To create new authorities for the purpose of protecting and improving the environment and also to coordinate the activities of already existing authorities constituted under previous laws.
4. To provide for stringent and deterrent punishment to the offenders of the natural environment who endanger its safety and health.

5. To facilitate the growth of subordinate and delegated legislation on ecologically sensitive topics and environment protection.
6. To promote sustainable development, i.e. balance the overall development with environmental protection.

Need for the Environment Protection Act in India

The need for stringent legislation for environment protection was felt in India because of the following reasons:

1. The first was the Stockholm Conference which highlighted internationally, the impact human activities were having on the environment. Development and the environment were at crossroads with each other and the conference brought into focus the urgency of their reconciliation for the benefit of humanity and the planet as a whole.
2. The second was the Bhopal Gas Tragedy. It was about the leak of Oleum gas from an industry that proved to be fatal for the people around and the environment. This incident underlined the importance of regulating the industries so that they do not get away easily from the punishment of causing harm to the environment.
3. Also, the need was felt because India had some laws for protecting the environment like the Air Act and Water Act but there was no comprehensive law that connected them and coordinated their activities and functions.

Why is Environment Protection Act called an 'Umbrella Act'

The Environment Protection Act is called an 'Umbrella Act' because of the following reasons:

1. It establishes the basic framework for planning and executing large-scale strategies to protect and improve the overall environment, rather than focusing on specific aspects.
2. It provides for coordination between the Central government, state government, and authorities that are established under various other legislation related to the environment.
3. It fills the lacuna created by several other distinct legislation like the Water Act and Air Act. It connects them together and makes them more effective.
4. It is broad and comprehensive legislation that covers the definitions, powers, and responsibilities of the central government towards the environment, and penal provisions as well.

The concept of Environment Impact Assessment

Environment Impact Assessment has been defined by the International Association for Impact Assessment as, *"the process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of development protocols prior to major decisions being taken commitments made."*

Basically, it is a concept that attempts to reconcile anthropogenic developmental activities with environment protection by assessing the impact of such activities on the environment and addressing them at the planning and design stage of the project itself. Thus, it majorly involves identifying the future implications of a proposed activity on the environment. It has originated from the concept of the 'precautionary principle' which says that a consent must be obtained from a competent authority before taking up any developmental activity posing a serious or irreversible threat to the environment. Now, in order to gauge the effect of that activity, EIA plays an instrumental role.

Environment Protection Act in India

The concept of EIA reached India in 1976-77 with the Planning Commission asking the Department of Science and Technology to assess the river valley projects for their impact on the environment. Subsequently, it was expanded to include other projects as well. They were subjected

to the approval of the Public Investment Board. But these were mainly administrative decisions and had no statutory backing. But it got support with the coming of the Environment Protection Act, 1986. After EPA came into force, a notification was issued under the Act which made EIA compulsory for 30 specified activities. The responsibility for giving a clearance has been given to the Ministry of Environment and Forest. The Notification was revised in 2006.

Section 2 of Environment Protection Act

Section 2 of the Act defined various terms used in its provisions. These definitions are as follows:

1. **Environment**– Environment has been defined to include air, water, and land, and the inter-relationship among and between air, water, land and human beings, other living creatures, microorganisms, plants and property.
2. **Environment pollutant**- A pollutant is any substance in a solid, liquid, or gaseous state, which when present in a certain concentration can be injurious to the environment.
3. **Environment pollution**– The presence of an environmental pollutant in the environment is called environment pollution.
4. **Handling**– Handling, in respect of any substance, is deemed to imply its “manufacture, processing, treatment, package, storage, transportation, use, collection, destruction, conversion, offering for sale or its transfer.”
5. **Hazardous substance**– It refers to any substance or preparation which can cause harm to humans, plants, other living creatures, property, or the environment due to its chemical or physico-chemical properties or handling.
6. **Occupier**- In respect of any factory or premises, it refers to the person who is in control over the affairs of the factory or premises, and in respect of any substance, it refers to the person who is in possession of that substance.

Powers and functions of the Central Government

Section 3- Powers of the Central Government to take measures to protect and improve the environment

Section 3 empowers the Central Government to take all such measures as it deems necessary or expedient to protect and improve the quality of the environment, and to prevent, control, and abate environmental pollution. Some of these measures include:

1. To coordinate actions among state governments, officers, and other authorities.
2. To plan and execute nationwide programs.
3. To lay down standards for the quality of different aspects of the environment.
4. To lay down the standards for emission or discharge of pollutants.
5. To restrict the operation of certain industries, processes, or operations in specific areas.
6. To lay down procedures and safeguards for the prevention of pollution-causing accidents and take remedial measures.
7. To lay down procedures and safeguards for the handling of hazardous substances.
8. To examine the manufacturing processes, materials, and substances that are capable of causing pollution.
9. To carry out and sponsor investigations and research on the issues related to pollution.
10. To inspect the premises, plant, equipment, machinery, manufacturing, or other processes, materials, or substances.
11. To establish or recognise environmental laboratories and institutes.
12. To collect and disseminate information on pollution matters.
13. To prepare codes, manuals, or guides related to the prevention, control, and abatement of environmental pollution.
14. Such other matters as the government deem necessary or expedient.

The Central Government is also authorised to constitute such authority/authorities for the purpose of exercising and performing such powers and functions as the government may delegate to it.

Section 4- Power to appoint officers

Section 4 authorizes the Central Government to appoint officers with such designations, powers, and functions as it thinks fit. The officers appointed shall be under the control and direction of the government or any authority empowered by it.

Section 5- Power to give directions

As per Section 5, the Central Government has got the power to issue directions in writing to any person, officer, or any authority, which shall be binding on such person, officer, or authority.

These directions could be related to matters as follows:

1. To close, prohibit, or regulate any industry, operation, or process; or
2. To stop or regulate the supply of electricity, water, or any other service.

Section 6- Power to lay down rules to regulate environmental pollution

The Central Government has also been authorized to frame rules on the matters mentioned in Section 3 of this Act. Some of these matters include:

1. The standards of quality of air, water, or soil.
2. The maximum allowable limits of environmental pollutants (including noise).
3. The procedures and safeguards for the handling of hazardous substances.
4. The prohibition and restrictions on the handling of hazardous substances.
5. The prohibition and restrictions on the location of industries, operations, and processes.
6. The procedures and safeguards for the prevention of accidents likely to cause pollution and provide for remedial measures for such accidents.

Section 10- Power of entry and inspection

Under this Section, any person authorized by the Central Government has the right to enter any place, at reasonable times with some assistance for the following purposes:

1. To perform any function entrusted by the Government,
2. To determine whether and how such functions are to be performed, or whether the provisions of this Act, rules made under any notice, order, direction, or authorization granted has been complied with,
3. To examine and test any equipment, industrial plant, record, register, document, or any other material objects.
4. To conduct a search in my building where there is reason to believe that an offence under the Act has been committed.
5. To seize any such equipment, industrial plant, record, register, document, or other material objects if there is reason to believe that it would serve as evidence for the offence committed or that the seizure is necessary to mitigate the pollution.

Also, any person carrying on such industry, process, or operation which involves handling of hazardous substances must render all the assistance required to the person empowered by the Central Government for inspection. Failure to provide the assistance without any reasonable cause, or willfully delays or obstructs that person shall be guilty of an offence under this Act. Also, for such search and seizure, provisions of the Code of Criminal Procedure, 1973 or any corresponding law in force shall be applicable.

Section 11- Power to take sample and procedure to be followed

Section 11 empowers the State Government or any officer authorized by it to take the samples of air, water, soil, or other substances from the premises of any factory.

The procedure prescribed for sample taking is as follows:

1. The person taking the sample must serve a notice of his intention to take the sample to the person in charge of the place.
2. The sample must be taken in the presence of the person in charge or his agent.

3. The sample must be placed in a container or containers, which shall be marked and sealed. Thereafter, it shall be signed by both the person taking the sample and the person in charge or his agent.
4. The container then must be sent to the laboratory established under Section 12.
5. In case the person in charge or his agent wilfully absents himself or refuses to sign the containers, the containers must be sealed, marked, and signed by the person taking the sample and must be sent to the laboratory. The government analyst must be informed in writing about the wilful absence or refusal to sign.

Any analysis taken without following the procedure prescribed would not be admissible as valid evidence in any legal proceedings.

Section 20- Power to ask for information, reports, or returns

For the purpose of performing its functions under the Act, the Central Government has the power to ask for any reports, returns, statistics, accounts, and other information from any person, officer, state government, or any authority, which shall be bound to do so.

Section 23- Power to delegate

The Central Government is also authorised to delegate its powers under the Act, except the power to appoint authorities under Section 3(3) and to make rules under Section 25, to any officer, state government, or other authority. However, such delegation shall be subject to the requisite limitations and conditions, as may be specified in the notification in the Official Gazette.

Section 25- Power to make rules

To carry out the purposes of this Act, the central government may frame rules on the following matters:

1. The standards of environmental pollutants, beyond which the emission or discharge is prohibited under Section 7;
2. The procedure and safeguards for the handling of hazardous substances under Section 8;
3. The authority which is to be intimated about the occurrence or apprehension of occurrence of discharge of any pollutants in excess of the prescribed standards;
4. The manner in which samples of air, water, soil, or any other substance are to be taken under Section 11(1);
5. The form in which the notice of intention to take a sample for analysis is to be served under Section 11(3) (a).
6. The functions, procedures, and fees payable to environmental laboratories;
7. The qualifications of the Government Analyst appointed under Section 13;
8. The manner in which the notice of offence and the intention to make a complaint is to be given under Section 19(b);
9. The authority or officer who is required to submit the reports, information, or returns to the Central Government under Section 20;
10. Any other matter of concern, as may be prescribed.

Prevention, control, and abatement of environmental pollution

Section 7- Emission or discharge of environmental pollutants in excess of the standards

According to Section 7, it is prohibited for any person to discharge or emit any environmental pollutant in excess of the prescribed standards from any industry, operation, or process.

Section 8- Handling of hazardous substances

Section 8 lays down that all the persons handling any hazardous substances shall do so by complying with all the procedures and safeguards as may be prescribed.

Sample analysis

Section 12- Environmental laboratories

The Central Government is empowered to establish one or more environmental laboratories, or recognise any laboratory as an environmental laboratory to carry out the functions assigned under this Act. Rules regarding the functions, procedures, and other matters related to the environmental laboratory are to be framed by the Central Government by Notification in the Official Gazette.

Penal provisions under the Environment Protection Act

Section 15- General offences

Section 15 prescribes the penalty for general offences committed under this Act. If any person fails to comply with or contravenes any provisions of this Act, or rules made or orders or directions issued, he would be punishable with imprisonment for a term which may extend to five years or with a fine up to Rs. 1 Lakh, or with both. If the failure or contravention continues, then an additional fine which may extend to Rs. 5000 may be laid for every day the failure or contravention continues. And if this failure or contravention extends beyond one year after the date of conviction, then the imprisonment can extend up to seven years.

Section 16- Offences by companies

For an offence committed by a company, Section 16 holds responsible the person who at the time the offence was committed was in charge of and responsible for the conduct of the company as well as the company. However, if it is proved that any such person was liable exercised due diligence or that the offence was committed without his knowledge. Also, if it is proved that the offence was committed with the consent, connivance, or negligence of any director, manager, secretary, or another officer, then such person shall be liable to be proceeded against.

It is also specified that 'company' includes any body corporate, a firm, or any other association of individuals. The word 'director' also means 'partner' in relation to a firm.

Section 17- Offences by government departments

Section 17 lays down that for an offence committed by a government department, the Head of the Department shall be held responsible unless he proves that the offence was committed without his knowledge or that due diligence was exercised. However, if it is proved that the offence has been committed with the consent, connivance, or neglect of any officer other than the Head of the Department, then that officer shall be proceeded against and punished accordingly.

Other important provisions under the Environment Protection Act

Section 5A- Appeal to National Green Tribunal

Section 5A provides for the provision to appeal against an order or decision of the Appellate Authority under Section 31, by the aggrieved person. As per the Section, the appeal can be filed to the National Green Tribunal established under Section 3 of the National Green Tribunal Act, 2010.

Section 22- Bar of jurisdiction

Section 22 takes away the jurisdiction of civil courts from entertaining any suit or proceeding related to anything done or direction issued by the central government or an officer or authority in order to discharge the functions assigned by this Act.

Benefits of the Environment Protection Act

The following are some of the benefits of having the Act:

1. **Protection of public health**– It seeks to prevent, control and abate environment pollution so as to keep the environment clean and safe. This ensures that we get a healthy environment to live in, free from all sorts of pollutants harmful to our health. Thus, the Act aims to protect public health.

2. **Promotes sustainable development**– It seeks to prevent the exploitation of natural resources and preserve them for future generations.
3. **Positively empowers the central government to take concrete steps to protect the environment**– The Central Government has been given immense powers to not only appoint authorities to carry out various functions but also to take all the possible measures to further the objectives of the Act.
4. **Strict penal provisions**– The Act contains penal provisions for the breach of its provisions. It also lays down the liability of companies and government departments for polluting the environment.
5. **Protecting ecological integrity**– By providing for penal provisions and laying down various guidelines for the Central Government to take active steps for environment protection, the Act aims at preserving the ecological integrity by maintaining it in its unpolluted and natural form.

Drawbacks of the Environment Protection Act

Despite many effective provisions that the Act contains to protect the environment, it is not free from some limitations and drawbacks that dilute its effectiveness. Some of them are the following:

1. **Too general in nature**– The Act is a comprehensive legislation that tries to cover all the aspects of the environment but it does so only superficially. It covers only the broad aspects and leaves out the details.
2. **Conflicting jurisdiction**– Section 24 talks about the overriding effect of this Act. It mentions that if an offence is punishable by both this Act and some other legislation, then the offender is to be punished under the other law and not this. This provision lessens the effectiveness of this Act as an offender can easily flout the rules and protect himself from the penalty, prescribed under this Act.
3. **Flexible penalty**– The penal provisions prescribed under the Act are not adequately stringent and deterrent. In most of the provisions, there is no minimum penalty provided. Also, the offenders have been provided with a room to escape liability by proving things like the offence was committed without knowledge or that due diligence was exercised.
4. **Weak citizens' suit provision**- Common citizens are not allowed to file a suit against the environmental offenders unless 60 days prior notice is given. Those 60 days could be easily utilised by the offender to wipe out the evidence of his fault. Only the central government or its authorised officers or authorities can file a complaint under this Act. It is important that citizens are given the right to file complaints in cases where they see the environment is being harmed.
5. **Lack of coverage of certain specific aspects of environmental damage**– The ambit of environment pollution has widened with the march of time and technological advancements. But the definitions under the Act have not kept up with the pace. Specifically, the definition of 'pollutant' covers only the particulate aspects. Nowadays, pollution caused by noise and radiation would fall out of this definition. It fails to cover soil erosion, effects of flood and drought, and other important aspects related to environmental degradation.

Important case laws regarding the Environment Protection Act Vellore Citizens' Welfare Forum v. Union of India (1996)

Facts

River Palar is a river in the State of Tamil Nadu, which is also one of the main sources of drinking and bathing water for the surrounding people. The petition was filed against excessive pollution caused by tanneries and other industries in the State. The Tamil Nadu Agricultural University Research Centre also revealed that a significant portion of agricultural land had turned either partially or completely unsuitable for cultivation.

Issue

Should the tanneries and industries be allowed to operate at the expense of damage to the surrounding environment?

Held

The Court highlighted that the main purpose of the Environment Protection Act is to create an authority under Section 3(3) with all the necessary powers and functions to protect and improve the environment. However, it was disappointing that not enough authorities were appointed for the same. Thus, it directed the Central Government to appoint an authority within one month and confer on it all the adequate powers required to deal with the situation created by tanneries and other polluting industries in Tamil Nadu. It also directed the authority to implement the 'precautionary principle' and 'polluter pays principle'. A fund called 'Environment Protection Fund' was also to be constituted. The compensation received was to be employed for reversing the

damage done to the environment and to the victims of the damage.

Narula Dyeing and Printing Works v. Union of India (1995)

Facts

The Narula Dyeing and Printing Works were allegedly discharging untreated pollutants into an irrigation canal resulting in significant water pollution. The State Government as well as Gujarat State Pollution Control Board issued directions under Section 5 of the Environment Protection Act to close down the factory. The Petitioners challenged this order citing that no personal hearing was provided to them and no time was granted to comply with the said directions.

Issue

Were the State Government and the Board right in closing down the factory without providing an opportunity for a personal hearing to the petitioners?

Held

The Gujarat High Court held that the government was absolutely right in issuing the orders for closing down the factory under Section 5. In cases where there is a grave injury caused to the environment, the government is empowered to dispense with the opportunity of hearing. It is intended to protect the environment from serious damage done by discharging untreated effluents.

M.C. Mehta v. Union of India (The Ganga Pollution Case) (1988)

Facts

Kanpur has been the hub of tannery business in India for a long time. Most of these industries are located on the southern banks of the river Ganga. These industries have been known to have contaminated the river. In 1985, a matchstick tossed into the river resulted in a massive fire in the river because of the presence of a toxic layer of chemicals formed on its surface. Thus, M.C. Mehta, a famous environment advocate, and an activist filed a petition in the Supreme Court against the tanneries and also the Municipal Corporation of Kanpur to stop them from discharging untreated effluents into the river, polluting it.

Issues involved

1. Whether the authorities had been negligent in protecting the river Ganga from pollution?
2. Should the smaller industries be aided financially for the installation of treatment plants and what standards should determine 'smaller industries'?

Held

The Court held that there were several laws in force in India that sought to prevent environment pollution including the Environment Protection Act, 1986, and the Water (Prevention and Control of Pollution) Act, 1974. However, the authorities had been negligent in discharging their duties prescribed under these laws. It also observed that the financial capabilities of industries are irrelevant when considering the issue of installing primary treatment plants. Thus, each tannery was directed to at least install primary treatment plants, if not secondary plants.

The Court also laid down the following guidelines:

1. It was the duty of the Central Government to direct all the educational institutions across India to teach lessons on environment protection and improvement, at least for an hour every week.
2. Also, the Central Government must publish environment textbooks and distribute them among the students.

M.C. Mehta v. Union of India (The Vehicular Pollution Case) (1991)

Facts

Delhi is the National Capital of India and yet is included as one of the most polluted cities of the world. Over the years, the population of Delhi has become multifold and as one of the results of that, the pollution levels have been sky high. The main source of pollution has been the two-wheelers. Thus, M.C. Mehta filed the petition in the Apex Court to highlight the plight of the capital due to vehicular pollution and suggest practical solutions to the problem.

Issue involved

1. What steps should be taken to prevent and reduce vehicular pollution in the National Capital?

Held

With reference to technological and other solutions suggested by the petitioner and the literature presented, the Court passed the following interim orders:

1. It is the duty of the state under the DPSPs and also as mentioned in Section 51A as a fundamental duty, to protect the environment, life, flora, and fauna.
2. Awareness is the key to reducing environmental pollution. People must be made aware of the harmful effects of vehicular pollution on environmental health.
3. A committee was formed to look into vehicular pollution in the capital and suggest practical solutions to prevent it.

General Powers of the Central Government (Section 3):

Section 3 of the Act confers wide-ranging powers upon the central government to take measures for the protection and improvement of the environment. It empowers the government to issue notifications, formulate rules and regulations, and lay down standards for environmental quality. This section enables the central government to exercise regulatory control and enforce necessary measures for environmental protection.

Prevention, Control, and Abatement of Environmental Pollution (Sections 7-14):

Sections 7 to 14 of the Act focus on the prevention, control, and abatement of environmental pollution. These sections empower the central government to undertake various measures, such as setting emission and effluent standards, regulating industrial activities, prescribing safeguards for handling hazardous substances, and promoting environmental impact assessments for developmental projects. They also establish the requirement for prior consent or authorization for certain activities that may have a significant impact on the environment.

Penal Provisions (Sections 15-17):

Sections 15 to 17 of the Act establish penalties for offenses committed against its provisions. These sections provide for punishments, which may include imprisonment and/or fines, for violations of the Act's provisions or contravention of the rules, regulations, or orders issued under it. The penalties vary depending on the nature and severity of the offense committed.

The Environment (Protection) Act, 1986, plays a crucial role in environmental governance in India. It empowers the central government to take effective measures for the protection and conservation of the environment. The Act's provisions aim to prevent and control pollution,

regulate hazardous substances, and establish penalties for violations. By providing clear definitions, granting powers, and imposing penalties, the Act establishes a legal framework for environmental protection and serves as a tool for ensuring sustainable development and the well-being of the ecosystem and society as a whole.

3.4 Indian Forest Act 1927 and Forest Conservation Act, 1980

The Indian Forest Act, 1927, and the Forest (Conservation) Act, 1980, are significant legislations in India related to the management and conservation of forests. While the Indian Forest Act focuses on the regulation of forests and the utilization of forest resources, the Forest (Conservation) Act specifically deals with the conservation of forests and the protection of wildlife.

Forests are one of the precious resources that nature provides. The whole ecosystem is dependent on the forests as they are an important part of natural habitat. So, it should be our prime duty to preserve them and not harm the cycle of our nature. But the forests of our nature are being cut at an alarming rate. People have become so greedy that they have started clearing the entire forests. Therefore, to stop this rapid deforestation the Central government enacted the Forest Conservation Act, 1980.

History

The first legal draft on this issue was the Indian Forest Act, 1865. Later, it was replaced by the Indian Forest Act, 1927 during the colonial period. Whenever any law gets passed, it carries the hope that it will address the social issue for which it was passed. When the Indian Forest Act, 1927 was passed, it carried the same hope but it was solely confined to British interests.

The main focus of the Act of 1927 was on timber. The Act of 1927 was divided into the 13 chapters and consisted of the 86 Sections. It gave power to the State to control the rights of tribal people to use forests. Under this Act, the government was also empowered to create reserved forests. It aimed to regulate the forest produce and to levy taxes on timber and other forest produce, which later became the source of revenue for the government. It never aimed to protect the forests of the country and just wanted to regulate the cutting of timber and other raw materials used in the industries.

After independence, the need to conserve the forests became more strong and therefore, the President of India enforced the Forest (Conservation) Ordinance, 1980. The ordinance was later repealed by virtue of Section 5 of the Forest (Conservation) Act, 1980 which came into force on October 25, 1980. It was passed to protect the forests of the country and the matters related to it. It also covers the issues which were not addressed by the previous Act. Under the 1980 Act, the restriction was made on the use of the forests for non-forest purposes.

Constitutional mandate for forest conservation

When the Constitution of India was adopted in 1950, the framers were not aware that in future the issues related to forest conservation may arise. This was realised later as the Constitution (Forty-Second Amendment) Act, 1976 was made and Article 48A was added to the part of Directive Principles of State Policy and Article 51A as a fundamental duty of every citizen of India.

As per Article 48A, the state shall make laws to protect and improve the environment to safeguard the forests of our country.

According to Article 51A(g), it is the duty of every citizen of India to protect and improve the natural environment including the forests of our country.

Objective

The trees in the forest don't only provide us with oxygen for breathing they do a lot more than that. They also provide us with some useful products like wood and food. Forests are an important part of our nature, they maintain the entire ecosystem and water cycle of the earth.

The object of the Act is to maintain ecology and to preserve the forest of our country. It is also the object of this Act to regenerate the forests by planting trees and increase the forest growth in our country.

1. To protect the forest, its flora, fauna and other diverse ecological components. To protect the integrity, territory and individuality of the forests.
2. To protect the forests and prevent deforestation that will lead to land erosion and subsequent degradation of the land.
3. To prevent the loss of forest biodiversity.
4. To prevent the conversion of forests into agricultural lands, or grazing lands, or building of business or residential units.

Features

This Act has the following features:

1. This Act has made the restrictions on the State government and other authorities to make decisions in some matters without the prior permission of the central government.
2. Under this Act, the whole power is in the hand of the Central government to carry out the laws of this Act.
3. This Act also provides penalties for the infringement of the provisions of this Act.
4. Under this Act, an advisory committee may be formed for advising the Central government in matters related to forest conservation.

Some pertinent sections

Section 1: Title and scope

Section 1 of the Act talks about its title, scope and commencement. This Act is known as the Forest (Conservation) Act, 1980. This law applies to the whole country except Jammu and Kashmir. Although, Article 370 has been revoked which means all central laws must be made applicable to the whole country. However, as of now, only 37 laws apply to Jammu and Kashmir and this Act is not included under these 37 laws. This law came into force on October 25, 1980. It replaced the Forest (Conservation) Ordinance, 1980 and contains similar provisions.

Section 2: Restrictions on dereservation of forests and its non-forests use

This Section restricts the state governments and other authorities to make laws in the following matters without the prior permission of the Central government:

- that they cannot dereserve any forest land or any portion of it reserved under any law for the time it being enforced in the State or any other part;
- that the forest land or any portion of it cannot be used for non-forest purposes;
- that they cannot assign any forest land or any portion of it by way of lease to any private person, or anybody or organisation not controlled by the Government of India;
- that a forest land or any part of it grown naturally may be cleared for the reforestation.

The explanation of this section defines the term “non-forest purposes”. It means cleaning any forest land or its portion for the purpose of:

- Planting tea, coffee, spices, rubber, palms, oil-bearing, plants, or medicinal plants;
- Or for any purpose other than afforestation(वनीकरण), but it should not include any work related to preservation, evolution and administration of forests and wildlife.

Section 3: Advisory committee

As per Section 3 of this Act, the Central government has the power to constitute an advisory committee to advice on matters related to the

- approving as under Section 2 of this Act;
- or any matter referred by the Central government, connected with the preservation of forests.

Section 3A: Penalties

This Section 3A was added by the amendment made in 1988. According to this section, whoever violates or abets the violation of any law contained under Section 2 shall be punished with simple imprisonment for any prescribed term which may increase up to 15 days.

Section 3B: Offences by authorities and government offices

This Section 3B was also added by the amendment made in 1988. This section talks about the offences committed by the Authorities and the government Department.

According to section 3B(1), whenever any offence under this Act is committed by any department of the government, head of the government, any authority or any person who at the time of the commission of the offence was responsible for the conduct of business, shall be made liable for the offence under the Act.

However, the same person can save himself by proving that the offence was committed without his knowledge and also, he took all the possible measures to prevent the commission of the offence.

According to section 3B(2), when an offence under this Act has been committed by a person other than the department of the government, head of the government or the authority mentioned under sub-section 1, with his consent or due to his negligence, then such persons shall be declared guilty under the Act and also be made liable to proceedings and punishments.

Section 4: Rulemaking power

Under Section 4, the Central government has the power to carry out the laws prescribed under this Act, by notifying in the official gazette. Before forming any rule, it should be presented before both houses of the parliament for a period of thirty days. Both the houses of the parliament shall agree to do the modification or form the new rule under the Act.

Section 5: Repeal

This section of the Act repealed the Forest (Conservation) Ordinance, 1980.

Important case laws

The judiciary has also played an important role in conserving the forests and protecting our environment by way of entertaining different Public Interest Litigation (PIL) filed under Article 32 and Article 226 of the Constitution. The Supreme Court and the High Courts have delivered various important judgements regarding the protection of the forests and environment while entertaining the PILs.

Tarun Bharat Singh v. Union of India (1993)

In the instant case, a voluntary organisation approached the Supreme Court through a PIL filed under Article 32 of the Indian Constitution. The petition was against the illegal mining going on in the reserved area of the Alwar District. Despite the fact that the area was reserved under the Act, the state government had granted hundreds of licences for mining marble. The Court held that whenever an area is declared as the protected forest it comes within the purview of the Forest (Conservation) Act and now, the State government cannot carry on any non-forest activity in the reserved area without the prior permission of the Central government. As mining is a non-forest activity, the State government's action to grant a licence for mining or renewing their licence for mining is contrary to law. An interlocutory direction was also passed to the State government and the mine owners to stop the illegal activity in the reserved area.

State of MP v. Krishnadas Tikaram (1994)

In this case, the respondents were granted the mining lease of limestone in the forest area in the year of 1966 for a period of 20 years. In 1986, after its expiry, the respondents approached the State government for its renewal. The State government passed the orders to renew the lease for further 20 years. The Forest Department cancelled this order. This cancellation was challenged before the Supreme Court of India. The Court held that under Section 2 of the Forest (Conservation) Act, the state cannot grant or renew the licence without the prior approval of the Central government. Therefore, the cancellation of the order was properly made.

Krishnadevi Malchand Kamathia v. Bombay Environmental Action (2011)

In this case, an application was filed by the District collector to initiate the contempt proceedings against the appellants for violating the orders to the court. The court had issued directions to remove the newly constructed bund so that seawater can come in to protect the mangrove forests. The order tried to restrain the appellants from indulging in any activity which will harm the mangrove forests. The appellants have the licence to manufacture salt at the place. The Supreme Court held that the manufacturing of salt by solar evaporation of seawater is not permitted in the area as that area is home to the mangrove forests. The mangrove forests are of great ecological importance and are also ecologically sensitive and that is why they fall under the category of CRZ-I (Coastal Regulatory Zone-I). The Coastal Area Classification and Development Regulations, 1991 classifies the Coastal Regulatory Zone, and according to it, the manufacturing of salt is prohibited.

Indian Forest Act, 1927:

The Indian Forest Act, 1927, was enacted to consolidate and amend the laws relating to forests, the transit of forest produce, and the duty leviable on timber and other forest produce. Key provisions of this Act include:

Reserved Forests and Protected Forests: The Act classifies forests into reserved forests and protected forests, providing mechanisms for their management, protection, and administration. It empowers the government to declare certain areas as reserved forests to ensure their conservation and sustainable use.

Control on Forest Land and Resources: The Act regulates various aspects related to forest land, such as the control of felling trees, extraction of forest produce, grazing, and settlement of forests. It grants powers to the government to control and manage forest resources for their sustainable utilization.

Transit of Forest Produce: The Act establishes provisions for the regulation and control of the transit of forest produce, including the requirement of permits for the movement of timber and other forest produce.

Forest (Conservation) Act, 1980:

The Forest (Conservation) Act, 1980, was enacted to ensure the conservation of forests and the prevention of their depletion. The key provisions of this Act include:

Prior Approval for Diversion of Forest Land: The Act mandates that prior approval from the central government is required for the diversion of forest land for non-forest purposes such as industrial projects, mining, and infrastructure development. This approval is necessary to ensure the ecological balance and sustainable management of forests.

Compensatory Afforestation: The Act introduces the concept of compensatory afforestation, which requires the compensatory plantation of an equivalent area of non-forest land for any forest

land diverted for non-forest purposes. This provision aims to maintain the overall forest cover and mitigate the environmental impact of forest land diversion.

Penal Provisions: The Act establishes penalties for offenses committed against its provisions, including unauthorized diversion of forest land or non-compliance with the conditions specified in the approval for forest land diversion.

Both the Indian Forest Act, 1927, and the Forest (Conservation) Act, 1980, play crucial roles in the conservation, management, and sustainable utilization of forest resources in India. While the former focuses on the regulation and administration of forests, the latter emphasizes the need for conservation and the protection of forests from indiscriminate diversion and depletion. Together, these acts provide a legal framework for ensuring the ecological integrity and sustainable development of forest ecosystems in the country.

MODULE 4:

1. The National Green Tribunal Act, 2010-

Scope (sec 3-13),

Jurisdiction, Powers and Proceedings of the Tribunal (sec 14-25),

Penal Provisions (26-28)

The specific goal of UN 2030 is with the agenda for the Sustainable Development of Environment can be achieved by only setting up the essential courts and tribunal for its progress. Almost 1200 environmental courts, and tribunals are working in various countries and more courts are being planned to be established for further improvement.

It has been analysed that if environmental cases are to be concerned, then it should be according to scientific analysis, which is only possible with the help of experts and judicial officers. If this is followed, then the judicial system can become more efficient for resolving the environment matters.

National Green Tribunal was established in 2010 which was under the National green tribunal act. This act is related to the disposal of civil cases in relation to environmental protection and also for the conservation of natural resources. There is an inclusion of legal rights and which are related to the environment. The National Green Tribunal Act, 2010 is enacted under Article 21 of the Indian Constitution, and it explains the right to live in a clean and healthy environment.

Statement of Objects and Reasons for the enactment of the Act

1. In recent years, a lot of pressure has been imposed on the natural sources of the environment due to the expansion of the industries, transportation and increasing urbanization and there are pending cases related to the environment in other courts. So, this reason includes setting up of National Green Tribunal under the Act.
2. India being a member of the United Nations Conference on Human Environment called upon to provide a very effective judicial and administrative proceedings and to redress the liabilities regarding National laws for the victims in relation to environmental pollution and damage.
3. The main object is the right to life, and a healthy environment which is given under **Article 21** of the Indian Constitution has been constructed in the matter of judicial proceedings.
4. The National Green Tribunal is enacted for the strict liability which can be imposed after one indulges in environmental damages or accidents related to hazardous substances.
5. There is setting up of National Green Tribunal Under this Act for better relief and compensation with regards to the damages to persons, property and the environment.

National Green Tribunal Bill, 2009

As the National Green Tribunal was set up with legal rights to the environment for the effective disposal of the cases. Accordingly, it has been decided for the introduction of National Green Tribunal Bill, 2009 which lays down the following procedure:

1. For the establishment of the national green tribunal, the composition must include a chairperson, judicial experts and environmental experts according to the Central Government notification.
2. The person should be the judge of the supreme court or the Chief Justice of a high court to be appointed as the chairperson of the tribunal.
3. The person who has been qualified as a judge of the high court shall be given eligibility to be a judicial member of the tribunal.
4. In the appointment of Expert member, one needs to be an expert either in the physical sciences, life sciences or one who has dealt with the environmental matters.

Composition of the tribunal

Under section 4 of the act, the tribunal shall consist of the following:

1. An eligible chairperson as per defined in the National Green Tribunal Bill, 2009 which should be a full-time Chairperson
2. Ten to Twelve full-time judicial members or as per the Central government notification
3. The chairperson has the power of calling the specialised person who has a particular experience to the tribunal for assistance.
4. The central government can notify about the territorial jurisdiction falling under a particular place of sitting.
5. The central government with the consultation of Chairperson, can make rules and regulations in relation to the Tribunal.

Qualifications of the members

1. The chairperson should be qualified as a judge of the supreme court or the chief justice of the high court.
2. The member of the tribunal should have a qualification in relation to the judge of high court as a judicial expert.
3. As the non-judicial expert, one should have the degree of masters in science or doctorate degree or with a masters degree in engineering.

Jurisdiction of the Tribunal

Under section 14 of the act, the tribunal shall have jurisdiction to the following:

1. The tribunal has jurisdiction over the civil cases which are in consonance of the matters related to the environment.
2. The tribunal shall involve the disputes related to the above-written matter.
3. The application should only be made in the time span of six months from the commencement of cause of the case.

Bar of jurisdiction

According to the provisions given under section 29 of the act, the following is the bar of jurisdiction:

1. No civil court is determined to entertain any case which is empowered to determine as an appeal.
2. The civil courts are also barred to entertain any question which is related to the compensation or relief is given by the Tribunal.
3. No civil court is given permission to grant an injunction on a particular case before the tribunal which is in respect to the settlement of disputes in case of compensation or restitution of property.

Who can file the application?

The act provides relief to any party who has rendered the status of victim in relation to the causes of environmental pollution and dealing with other environmental problems or hazardous status.

Following can file the application before the court:

1. Any person who has sustained the injury under this act.
2. Any legal representative of the deceased in which the cause of death is related to the environment.
3. Any agent of the property of aggrieved but deceased.
4. Any person aggrieved including the representative body or an organisation.

Procedure for filing an application or appeal

The official language of National green tribunal is English and it is very simple to file an application seeking environmental damages.

For every application where there is no compensation involved, one needs to fill the application and provide with the fee of Rs.1000 and if the compensation is to be rendered, then one has to give 1% of the compensation received and it should be minimum to Rs. 1000.

A claim for compensation can be made for the following:

1. Relief or compensation was given to the victims of pollution and damage to the environment with the hazardous substance.
2. It also includes the restitution of the property which is damaged
3. Restitution of the environment for the areas which are determined by the National Green Tribunal.
4. No application can be entertained until and unless it is made within the time span of five years from the date of arousal of causes of rendering the compensation.
5. Any person who is aggrieved by the decisions or award of the court, he can appeal to the Supreme Court under **section 22** of the act.

Limitations to the compensation

Under section 24 of the act, various limitations to the compensation have been mentioned which are as follows:

1. Application for the relief caused should be made within the time span of five years.
2. Compensation heads which are payable under **schedule II** are as follows.
 - Death or temporary disability of a person
 - Inclusion of loss of wages and medical expenses
 - When it has caused damage to private property or personal property.
 - Inclusion of the expenses which are incurred by the government for providing relief to the affected party.
 - Compensation that is required for the environmental restoration of the quality.
 - Loss of business or employment.
 - Claims emerging out of activities dealing with hazardous substances.

Powers of the tribunal

Under section 19 of the act, the Tribunal shall have the power that would be required to regulate its own procedure.

The powers of the tribunal are as follows:

1. Power to relief by issuing the compensation to the aggrieved person after analysing the matter in a scientific manner with a properly researched report.
2. Issuance of the commission for witnessing the documents
3. Reviewing the decision of a particular case
4. It has a power of dismissing the application if it is considered to have defaulted or its decided to be *ex parte*.
5. Granting the interim orders are considered as a power to the tribunal and it can be done after hearing both the parties.
6. Power to give an order regarding the ceasement of a person from further committing or violating the enactments specified in the Schedule I.
7. Under section 20, the tribunal has the power to pass any order or award in relation to the substantial development.
8. Under section 21 of the act, decisions which are taken by the majority of the members in the tribunal are considered as binding on the aggrieved parties.

Penalty for failure to comply with the awards or decisions of a tribunal

Under section 26 of the act, In the matter of failure to comply with the decision given by the tribunal, the National green tribunal follows a method of deterrent punishment.

The provisions laid down for the punishment are as follows:

1. Imprisonment extended up to three years
2. Fine which may extend up to ten crore rupees
3. Or with both imprisonment and the fine
4. In case if the contravention is still followed every day, the amount of twenty-five thousand rupees will be charged every day.

In case if a company fails to comply

Such company shall be punishable in the following manner.

1. Fine which may extend to twenty-five crores.
2. In case if the contravention or failure continues, additional fine with one lakh of fine may extend.

Case laws pertaining to various issues

1. *Braj Foundation v Govt. of UP*

This case was put forth by Braj foundation in which it was given that the government should make the memorandum of understanding for the forestation of Vrindavan. It was given by the government that the advertisement which was issued was just an invitation to treat but it cannot be regarded as a contract. But the tribunal gave guidelines to the government that it is the duty of it to promote afforestation. One of the significant aim was to create a 100-meter long belt on both the sides of **braj parikrama**.

2. *Jeet Singh Kanwar v Union of India*

In this case, the petitioners challenge the environment clearance, which was ordered for installing the coal-fired power plant. In the end, it was observed that if that environmental clearance is not resulting in excess environmental degradation then the project involved can be continued. But further, the tribunal gave the award regarding the illegality of the environment clearance due to consequences.

3. *Vardaman Kaushik v Union of India*

The court observed the problem of a growing population in Delhi and ordered to set up an action plan and directed that the vehicles which are 10 years old are prohibited and the burning plastic is prohibited.

For the implementation of various tracks were constructed for cycles and forces were set up to keep a check up vehicles and fine of Rs. 1000 was kept on cars parked on metallic sand tracks and it was offered that multi-level parking is constructed in appropriate areas.

The National Green Tribunal Act, 2010, is a significant legislation in India that established the National Green Tribunal (NGT) as a specialized forum for environmental dispute resolution and the effective enforcement of environmental laws. The Act delineates the scope, jurisdiction, powers, and proceedings of the NGT, as well as the penal provisions for non-compliance. Let's explore the key sections of the Act:

Scope (Sections 3-13):

Sections 3 to 13 of the Act outline the scope of the National Green Tribunal. These sections establish the NGT as a specialized tribunal for the effective and expeditious disposal of cases related to environmental protection and conservation. The NGT has jurisdiction over matters concerning the enforcement of environmental laws, including matters related to water pollution, air pollution, forest conservation, biodiversity, and environmental impact assessment. It also has the authority to hear appeals against orders, decisions, or directions of environmental regulatory authorities.

Jurisdiction, Powers, and Proceedings of the Tribunal (Sections 14-25):

Sections 14 to 25 of the Act delineate the jurisdiction, powers, and proceedings of the National Green Tribunal. These sections empower the NGT to hear and dispose of cases related to environmental disputes, including those related to civil disputes, compensation claims, and matters involving substantial environmental harm. The NGT has the power to grant relief and issue various orders, including interim orders, to safeguard the environment and ensure compliance with environmental laws. It can also award compensation and restitution for damage caused to the environment.

The Act provides for the appointment of expert members and judicial members to the NGT, ensuring the tribunal's expertise in environmental matters. The NGT operates independently and follows a simplified procedure to ensure expeditious disposal of cases, with a focus on addressing environmental concerns effectively.

Penal Provisions (Sections 26-28):

Sections 26 to 28 of the Act establish penal provisions for non-compliance with the orders, decisions, or directions of the NGT. These provisions empower the NGT to impose penalties, including imprisonment and fines, for offenses committed against its orders or directions. The Act emphasizes the importance of compliance with NGT's orders to ensure effective enforcement of environmental laws and promote a culture of environmental responsibility.

The National Green Tribunal Act, 2010, plays a crucial role in environmental governance in India by providing a specialized forum for addressing environmental disputes and enforcing environmental laws. By establishing the NGT and defining its scope, jurisdiction, and powers, the Act enhances the effectiveness of environmental regulation and encourages sustainable development. The Act's penal provisions serve as a deterrent against non-compliance and promote accountability in environmental decision-making and implementation.

It is important to note that the NGT operates alongside existing environmental laws and regulatory bodies, working in tandem to ensure environmental protection and conservation in the country.

2. The Wild Life (Protection) Act, 1972

Definitions,

Hunting of Wild Animals (sec- 9, 11 &12)

Protection of Specified Plants (sec 17A-H)

Protected Areas Sanctuaries, National Parks & Closed Area (sec 18 – 49C)

Offences against Wildlife (sec 50 – 58Y)

Every year, Earth Day is celebrated on 22nd April. This year the world celebrated the 51st Earth Day with the theme 'Restoring our Earth.' India too celebrated this day. But in this same year, the news of how poaching of wildlife animals has doubled during the lockdown in India was also reported. This makes the theme truly realistic as it shows that we have lost touch with mother earth.

The Supreme Court of India in *T.N. Godavarman Thirumulpad v. Union Of India (2012)* referred to a quote, "The universe along with its creatures belongs to the Lord. No creature is superior to any other. Human beings should not be above nature. Let no one species encroach over the rights and privileges of other species."

This quote was referred to for a reason. It was to emphasize the quintessential importance of preserving and conserving the environment and its components. Nature is the creator and the destroyer.

According to Charles Darwin, only the fittest is meant to survive. As a creator, nature exists through the flora and fauna in an ecosystem to sustain life. However, in the last few decades, mankind has introduced changes that are detrimental to the existence of both flora and fauna.

These are mostly artificial changes that have certainly interfered with nature's way of working. It has resulted in climate change, modification in the natural habitats of the animals, and pollution due to deforestation to name a few.

Earlier, there were boundaries existing between human civilization and that of flora and fauna. But the unnatural changes in the environment have now diminished that boundary resulting in human-wildlife conflict. That is the reason why wildlife animals are now often found wandering outside their habitat. This is because humans have hampered the equilibrium that existed. Let's understand the laws that impact the protection and conservation of wildlife in India.

Protection of wildlife in India

In India, wildlife conservation and protection are maintained under the Wildlife (Protection) Act, 1972 ('The Act'). The Act is a product of the times when environmental jurisprudence was rapidly developing in India with due credit to judicial activism.

The Act was enacted keeping in mind that all previous laws such as the Wild Birds and Animals Protection Act, 1912 were insufficient. The current Act is comprehensive and covers all the gaps that were present in the earlier laws.

However, there are still substantive gaps existing in the present law. There is a vacuum between the theoretical law and its practical implementation. Further, the objective of the Act has also been diluted due to bureaucratic interference.

Overview of the Constitutional framework on wildlife protection

The Constitutional framework for the protection of wildlife, forest, and environment are present under Article 21 of the Constitution of India. The right to life includes the right of living in a clean and healthy environment.

Article 48A of the Directive Principle of State Policy puts a non-binding obligation on the state to protect and conserve the environment and to safeguard forest and wildlife. Article 51A(g), too, puts a non-binding obligation on the citizens to protect the forest, wildlife, rivers, and animals of the country.

These obligations have been fulfilled by both the central and the state governments by adding the term 'forest' under Entry 17A and protection of wildlife and birds to Entry 17B of the Concurrent List by 42nd Constitutional (Amendment) Act, 1976.

There is a set of laws that concerns itself with environmental protection and wildlife which are:

- Environmental Protection Act, 1986
- Forest Conservation Act, 1980
- Air (Prevention and Control of Pollution) Act, 1981
- Wildlife Protection Act, 1972
- Water (Prevention and Control of Pollution) Act, 1974

Some popular wildlife sanctuaries in India

1. Corbett National park, Uttarakhand
2. Ranthambore National park, Rajasthan
3. Bandipur National park, Karnataka
4. Keoladeo Ghana National park, Rajasthan
5. Nagarhole National park, Karnataka
6. Sariska National park, Rajasthan
7. Kaziranga National park, Assam.

Overview of the Wildlife Protection Act, 1972

The Act is a small piece of model legislation that only covered birds and animals specified as per the Schedule present under the Act. It gave the State Governments the power to protect and

preserve animals and birds as per Section 3. Section 3 also prohibited the capturing, killing, selling, buying, possessing of the animals including their plumage (feathers).

Section 4 granted an exemption to Section 3, only when the state government was of the opinion that the above-mentioned measures are in the interest of scientific research. A person can then be granted a license subjected to further restrictions if any.

Another exception was available under Section 3. The exception allowed a person to kill or capture animals and birth in self-defence of himself, or other, or in the self-defence of property.

The Wildlife Protection Act protects all kinds of animals from amphibians to birds, mammals, and reptiles under Section 2(1). The definition is exhaustive and can accommodate a variety of animals within the scope of protection. The Act extends protection to specified plants that cannot be destroyed and damaged without the approval of the government.

Important provisions of the Wildlife Protection Act, 1972

Preliminary

Section 1

This Act is named 'Wild Life Protection Act, 1972'. This Act has been accepted by all the states and it is applicable to the whole of India.

Section 2

This section gives definition of the following words.-

1. 'Animal'- According to this section the word animal includes mammals, reptiles, amphibians, birds and their eggs.
2. 'Animal article'- Refers to any article or object made from a wild animal wherein the whole body or a particular part of them has been used. This does not include vermin(wild animals that are harmful to crops, game or farm animals or carry various infectious diseases).
3. 'Board'- The advisory board constituted for the wildlife protection and as mentioned in sub-section (1) of section (6).
4. 'Captive animal'- Any animal which is kept or bred in captivity, which is described in Schedule 1; Schedule 2; Schedule 3; and Schedule 4. It can also be described as animals which live under human care.
5. 'Chief wildlife warden'- It is the statutory authority that heads the wildlife department of a state.
6. 'Circus'- It refers to the establishment where animals are made to perform and various tricks are performed on them.
7. 'Closed area'- Area which is declared closed for hunting and where hunting is prohibited. It is described in sub-section (1) of Section 37 of Wildlife Protection Act, 1972.
8. 'Collector'- It is a person who is the chief officer in charge of the revenue administration of a district.
9. 'Commencement of this Act'- The commencement of the provisions of the Wildlife Protection Act in the state.
10. 'Dealer'- Refers to any person who is engaged in the business of buying and selling animal articles, captive animal, trophy, uncurled trophy.
11. 'Director'- It refers to a person who has been appointed as the Director of Wildlife Preservation, described in sub-section (1) of Section 3.
12. 'Forest Officer'- Refers to the forest officer appointed for the wildlife protection, as described under clause 2 of Section 2 of Wildlife Protection Act, 1972.
13. 'Government Property'- It refers to any property belonging to the government or is in possession of the government, and as described in the provisions of Section 39 of the Wildlife Protection Act, 1972.
14. 'Habitat'- Any land, water, vegetation which is a natural home of the wild animals.

15. 'Hunting'- It includes poisoning, killing, trapping any wild animal or making an attempt to do so. It also includes driving any animal for any particular purpose, injuring any wild animal or any of their body parts or killing the eggs of reptiles and birds, or disturbing the nest or eggs of the reptiles or birds.
16. 'Land'- It refers to canals, creeks and other various water channels, rivers, lakes, reservoirs, either artificial or natural.
17. 'License'- It refers to any license which has been granted under this Act.
18. 'Livestock'- It includes cows, buffalos, donkeys, goats, camels, sheep, pigs, mules, yaks, bulls, horses and also their young ones.
19. 'Manufacturer'- Means anyone who makes or manufactures articles made of wild animals.
20. 'Meat'- It includes blood, bones, flesh, fat, eggs, sinew, other than vermin, it can be either cooked or raw, of a wild animal.
21. 'National park'- Means an area declared by the government as a national park for the protection of animals, as described under section 35 or section 38, or under sub-section (3) of section 66.
22. 'Notification'- Notification given by the government for the establishment, maintenance of the wildlife sanctuaries, national parks or any notification published in the Official Gazette.
23. 'Permit'- It refers to permission granted under this Act or any provisions or rules of this Act.
24. 'Person'- It includes any person and also a firm.
25. 'Prescribed'- It refers to anything prescribed by rules under this Act.
26. 'Recognised zoo'- It refers to the zoo prescribed under section 38.
27. 'Reserve forest'- The area which is declared as reserved for forest by the State Government under this Act, as described under section 20 of The Indian Forest Act, 1972.
28. 'Sanctuary'- Means an area which has been declared as sanctuary and as described under section 26(A), or section 38 or sub-section (3) of the Wildlife Protection Act, 1972.
29. 'Specified plant'- Refers to any plant which has been specified to be protected and as described under Schedule 4 of this Act.
30. 'State Government'- Administrator of that union territory appointed by the President under Article 239 of Indian Constitution.
31. 'Taxidermy' – It refers to preserving the dead animals, or any body part partly or wholly in the form of trophies, or skins, rugs, specimens in mounted form by the process of taxidermy or antlers, feathers, teeth, masks, eggs, nests, rhinoceros horns in the form of trophies.
32. 'Uncured trophy'- Refers to trophies which have the mounted body part of the wild animal or wild animal wholly, which includes freshly killed animal, mask or other animal product which has not undergone the taxidermy process.
33. 'Vehicle'- Means anything which is used as conveyance in the land, water or air and which includes buffalo, camel, donkey, bullock, horse, mule and elephant.
34. 'Vermin'- Refers to animals which are dangerous to the crops, farm animals or animals which carry various kinds of diseases, as described in Schedule 5 of this Act.
35. 'Weapon'- It refers to any instrument which is capable of killing or proves to be dangerous for the life of wild animals such as bows, arrows, ammunition, firearms, explosives, hooks, nets, traps, knives, snares.
36. 'Wild Animals'- This refers to any animal which is of wild nature as compared to other species of animals and includes any animal which is specified in Schedule 1, Schedule 2, Schedule 4 or Schedule 5 wherever it is found.
37. 'Wildlife Warden'- It means any person appointed by the advisory board members and as specified in Section 4 of this Act.

38. 'Zoo'- A licensed dealer who kept captive animals for the public exhibition but not for circus or any other purpose, it can be either stationary or mobile.

Director of Wildlife and Chief Life Warden

Director of wildlife preservation

- The Central Government is empowered to appoint the Director of Wildlife Preservation under Section 3.
- The Director shall be subjected to general or specific directions by the Central Government.
- The Central Government can also appoint any other officers as it may be deemed necessary.

Chief Wildlife Warden

- The State Government is required to appoint the Chief Wildlife Warden, Wildlife Wardens, and Honorary Wildlife Wardens under Section 4 respectively.
- The Chief Wildlife Warden will be subject to the general or special directions of the State Government.

Power of delegation of the Director of wildlife preservation and Chief Wildlife Warden

- The respective persons in position, such as the Director and the Chief Wildlife Warden, are supposed to report it to the respective governments.
- They are empowered under Section 5 to delegate their powers with the prior approval of their governments and by order in writing.

Constitution of the National Board for Wildlife

The Wildlife (Protection) Amendment Act, 2002, added Section 5A for the Constitution of the National Board for Wildlife ('The Board').

Composition of the Board

- The Prime Minister is the chairperson of the National Board of Wildlife.
- The Board is to be constituted within three months of the amendment in the Act.
- The function of the Board, as specified under Section 5C, is to promote the conservation and development of wildlife and forest.
- It can also frame policies and advise the central and the state governments on ways and means of promoting wildlife conservation and effectively controlling poaching and illegal trade of wildlife and its products.

Duties of Board

- The Board is supposed to publish a status report at least once in two years on the condition of wildlife conservation in the country.
- The Board is required to make recommendations on the setting up of and management of national parks, sanctuaries, and other protected areas where certain activities are prohibited.
- The Board can declare protected areas under the Act as sanctuaries and national parks under Section 18 and Section 35 respectively.
- The Board can delegate its duties to the Standing Committee under Section 5B(1).

Constitution of the State Board for Wildlife

- The Act also establishes a State Board for Wildlife under Section 6 with the Chief Minister of the State as its Chairperson and the Administrator, as the case may be, in the Union Territory.

- The Board includes ten persons to be nominated by the state government from amongst eminent conservationists, ecologists, and environmentalists including at least two representatives of the Scheduled Tribes.
- The National Board is also supposed to nominate ten persons at the central level.

About the procedure and duties of the State Board

- The State Board is required to meet at least twice a year under Section 7.
- They are under an obligation to advise the state government to formulate policies for the protection and conservation of wildlife and specified plants under Section 8.
- They are also required to advice for the selection and management of areas to be declared as protected areas.
- Further, they have to advice in matters relating to the amendment under the Fourth and Fifth Schedule of the Indian Constitution, including measures to be taken for harmonising the needs of the tribals and other forest dwellers.

Grant of permit for special purposes under Wildlife Protection Act, 1972

Section 12

This section states that permission for hunting can be granted for special purposes. Under this section, it will be lawful for the Chief Wildlife Warden to grant permission for hunting by giving an order in writing and collecting the prescribed fee from that person so that he may be entitled for hunting for special purposes. Provided that such a permit should be granted with previous permission of the Central Government or State Government. Such special purposes are given below-

1. For the purpose of education.
2. For scientific research such as shifting of a wild animal to different habitats to observe the scientific changes in them.
3. For scientific management such as to maintain the healthy population of any kind of particular species.
4. For collecting the specimens of various kinds from the animal body so as to display it in a museum or any such similar institutions.
5. For collecting the snake venom for manufacturing various kinds of medicinal drugs.

Cancellation or suspension of license under Wildlife Protection Act, 1972

Section 13

This section states that the Chief Wildlife Warden or any such authorised officer can cancel or suspend the license of a person, by general or special order of the State Government in writing and also provide such valid reasons for the suspension or cancellation of the license.

Scheduled species under Wildlife Protection Act, 1972

The Wild Life (Protection) Act, 1972 has been divided into six schedules. Each schedule gives a varied form of protection. Schedule 1 and Schedule 2 provide absolute protection to the wild animals and for the violation of such provisions the penalty charged is very high. While in Schedule 3 and Schedule 4 animals are protected here but the penalty charged is low. Schedule 5 states the list of animals which can be hunted and Schedule 6 states the list of specified endemic plants which are prohibited for cultivation and planting.

Schedule 1

Part 1

It contains the following animals namely Andaman wild pig, cheetah, black buck, Indian gazelle, Indian Bison or Gaur, golden cat, hoolock, gangetic dolphin, fishing cat, clouded leopard, chinese pangolin, dugong, Indian elephant, hispid hare, golden cat, desert fox, caracal, desert fox,

panther, musk deer, pallas's cat, pygmy hog, Indian wild ass, marbled cat, slow loris, rhinoceros, snubfin dolphin, tibetan wild ass, tibetan wolf, nilgiri tahr, red panda, leopard cat, wild buffalo, shapu, rusty-spotted cat.

Part 2

It contains the following amphibians and reptiles namely Peacock marked soft-shelled turtle, crocodiles, Indian egg-eating snakes, logger head turtle, golden gecko, terrapin turtle, yellow monitor lizard, green sea turtle, leathery turtle, hawksbill turtle, ganges soft-shelled turtles, audithia turtle, gharial, large bengal monitor lizard, water lizard, pythons.

Part 2 (A)

It contains the following fishes namely Whale shark, himantura fluviatilis, urogymnus asperrimus, rhynchobatus djiddensis, anoxypristis cuspidata, glyphis gangeticus, pristis microdon, glyphis glyphis, carcharhinus hemiodon.

Part 3

It contains birds namely Bengal florican, large falcons, Andaman teal, black-necked crane, swiftlets, monal pheasants, white winged wood duck, large falcons, Great Indian bustard, mountain quail, peafowl, tibetan snow cock, white-eared pheasants, pink-headed duck, great Indian hornbill, narcondam hornbill, tragopan pheasant, fish-eating eagle, siberian white crane, white-bellied hereon, hill myna, vultures, kalij pheasant, tibetan eared pheasant.

Part 4

This contains the list of crustacean and insects namely comic oakblue, cornelian, sapphires, hedge blue, sophisa Chandra, helcyra hemin, admirals, butterfly, tigers, crow black spotted, crow blue spotted, lycaenops, orchid, dillpa morgiana, family pieridae, polydorus coon sambilana, delias samaca, cylogenes janetae, erebia annada, lethe Europa tamnua, papilio elephenor, symbrenthia silana, polydorus nevillei, colias dubi ,lethe ramdeva, elymnias peali, polydorus coon sambilana, polydorus hector, aporia harrietae harrietae, ypthima doherryi persimilis etc.

Part 4 (A)

This contains the list of coelenterates namely orange pipe coral (Tubipora musica), reef building coral which includes all scleractinians, fire coral which includes all millepora species, black coral which includes all antipatharians, sea fan which includes all gorgonians.

Part 4 (B)

It includes list of mollusca such as tudicla spirallus, cypraecassis rufa, cassis cornuta, tridacna maxima, nautilus pompilius, conus milneedwardsi, tridacna squamosal.

Part 4 (C)

It includes Echinodermata sea cucumber which includes all holothurians.

Schedule 2

Part 1

It includes bonnet macaque, Bengal porcupine, common langur, assamese macaque, stump tailed macaque, ferret badgers, wild dog or dhole, pig tailed macaque, Himalayan crestless porcupine, chameleon, Himalyan newtor salamander, spiny tailed lizard.

Part 2

It includes species of beetles and other animals namely stichophthalma nourmahal, enispe cycnus, family amathueidae, discophora dea deadites, faunis sumens assama, amathuxida amythaon

amythaon, aemona amathusia amathusia, discophora lepida lepida, family carabidae, gopala pita, acrocrypta rotundata, bimala indica, amara Brucei, broscosma gracile, family cucujidae, family danaidae, cucujus bicolor, halpe homolea, amblypodia aenea, charana jalindra, horage onyx, lampides boeticus, everes kala, nacaduba ancyra, mahathala ameria, pratapa deva, rapala icetas, spindasis lohita, tajuria sebonga, tajuria thyia, civets (all species of viverridae Malabar civet), common fox, flying squirrels, king cobra, red fox, weasels, Indian cobra, rat snake, sloth bear, jungle cat, marmots, Himalayan black bear, olivaceous keelback, sperm whale, otters, martens, Himalayan brown bear, checkered keelback snake, jackal, common fox, dog faced water snake, grey jungle fowl, Russel viper, mongooses, varanus species excluding yellow monitor lizard.

Schedule 3

This schedule includes the list of following animals- barking deer, wild pig, chital, sambar, hegdeer, nilgai, hyaena, gorals.

Schedule 4

This schedule includes Indian porcupine, birds other than those which appear in other schedules, polecats which includes vormela peregusna, mustela putorius, five striped palm squirrel, babblers, hedge hog, flamingos, buntings, finches, bulbuls, falcons, bustard qualis, fairy bluebirds, chloropsis, egrets, comb duck, ducks, coots, drongos, cormorants, doves, cranes, cuckoos, darters, curlews, megapodes, flowerpeckers, mannikins, flycatchers, magpies, geese, lorikeets, goldfinch and allies, larks, grebes, kingfishers, gerons, junglefowl, ibises, jacanas, iorars, minivest, owls, pigeons except the blue rock pigeon, starlings, pelicans, partridges, blue jays, pelicans, pipits, stone curlew, spurfowls, plovers, storks, sandgrouses, stilts, swans, thurushes, sunbirds, snipes, oystercatchers, orioles, nightjara, mynas, starlings, tree pies, weaver birds, woodpeckers, amilidae, wrens, viperidae, elapidae, hydrophidae, uropeltidae, typhlopidae, butterflies and moths, freshwater frogs, tortoise, three-keeled turtle, polytrema sinensis, tarucus ananda, polytrema discreta, euthalia lubentina, pelopidas assamensis, mollusca.

Schedule 5

This schedule includes rats, common crows, mice, fruit bats, jackal, bats.

Schedule 6

It includes blue vanda, red vanda, pitcher plant, kuth, beddomes cycad, ladies slipper orchids, pitcher plant.

Sanctuaries under Wildlife Protection Act, 1972

Section 18

This section deals with the declaration of the sanctuary. The sanctuaries are declared by the State government. They have the authority to declare any area as a sanctuary by an official notification any area as wildlife sanctuary, provided that area is not already a reserve forest or have territorial waters. Any area to be declared as a sanctuary should have adequate floral, zoological significance, and adequate ecological, faunal significance for the proper protection and preservation and also for developing proper environment for wild animals.

Section 19

Under section 19 the collector has to determine the nature, extent of a right of any person in or over the land which has been declared as a wildlife sanctuary. He has a right to inquire into the interference of any person with the land which has been reserved as wildlife sanctuary.

Section 21

The notification which has been issued by the state government shall be published in all regional languages by the collector in every town or village, specially in the neighbourhood of the area comprising therein so as to specify the restrictions and limitations of the wildlife sanctuary. It also gives a chance to any other person claiming right over the property to present before the collector within two months from the date of such proclamation. The claim made by such a person must be in written form and should contain the necessary details, the amount, compensation details, if any, claimed in respect of such claim of property.

Section 22

The collector after publishing such notice, should enquire on such claimant. It should ensure that such a person who is claiming on the property which has been declared as wildlife sanctuary has actual right on it and the claim preferred before him was presented according to the section 21 of the Wildlife Protection Act. This can be ascertained from the evidence presented by such a person or from the records of the State Government.

Section 23

Section 23 talks about the powers of the collector which he may exercise during the due course of enquiry. The collector has an authority to send any official or to himself enter in or upon any land for the purpose of investigation, demarcate and make maps of the same. It has power to approach civil court for the trial of suit.

Section 24 and Section 25

Under this section, the collector has to pass an order by rejecting or either by admitting the claim of a person claiming right over a property which has already been declared as the National Park or Sanctuary or Zoo. He can admit or reject the claim either in whole or in part. If the claim is accepted by the collector in whole or in part he shall exclude such land from the list of restricted areas or the areas which has been declared as wildlife sanctuary, or collector may pass an order to proceed to acquire such land by the agreement between the owner of the land and government has agreed to surrender his or her rights upon such property and compensation for the same can be paid, or can allow use of such land by the owner of the land within the limit of sanctuary with the consultation of the Chief Wildlife Warden. The collector may provide compensation in form of money or partly in property with the consent of court or with the consent of claimant.

Section 27

This section talks about the restriction in the sanctuary.

- It states that no person shall enter or reside in the limits of the sanctuary other than the public servant who is on duty, any person who has taken a permission from Chief Wildlife Warden or any authorised officer who has taken the permission to reside within the limits of the sanctuary, any person who has a lawful right over the immovable property within the limits of the sanctuary, any person who is passing by the sanctuary through a highway and also the dependents of the authorised officer, dependents of the person having right over immovable property, or the dependents of a person who is staying within the limits of the sanctuary.
- It states that any person who resides within the limits of the sanctuary is bound to not commit an offence, if it is found that any kind of offence is done against the Act, such a person is bound to help in finding the offender, he or she is bound to report the death of any wild animal and also to take the charge of such an animal until the Chief Wildlife

Warden takes the charge thereof, such a person is bound to extinguish any fire in such sanctuary of which he has knowledge or wherein a reasonable man could have known, such a person is also bound to assist the forest officer or chief wildlife warden or police officer in investigation of the offence.

- No person herein concerned shall molest any wild animal and should not be causing any damage, destroy, move or alter the boundary of the wildlife sanctuary.

Hunting and poaching are prohibited under the Act with exceptions

The Act prohibits hunting of wild animals specified in Schedules I, II, III, and IV including Indian Elephant, Indian Lion, Snow Leopard, Tiger, and Great Indian Bustard to name a few under Section 9. However, the ban on hunting is not absolute and it can be permitted in certain cases under Section 11.

Hunting under Section 11

- Wildlife animals protected under Schedule I of the Act can be hunted only by the permission of the Chief Wildlife Warden. Only if that animal proves to be dangerous to the life of the human being or is so disabled or diseased as to be beyond recovery.
- The Chief Wildlife warden can permit, by an order in writing and on his satisfaction with reasons, that the animal cannot be captured, tranquilised, or translocated in such a manner as to cause minimum trauma to the animal.
- Capturing the animal to be kept in captivity has to be done only when the Chief Wildlife Warden is satisfied that the animal cannot be rehabilitated.
- Wildlife animals under Schedule II, III, and IV can be hunted by the permission of the Chief Wildlife Warden or the authorised officer if that animal has become dangerous to human life or property (including standing crops on any land).
- The animal can also be hunted, if it is disabled or diseased as to be beyond recovery. The same process has to be followed by the Chief Wildlife Warden to permit the hunting of animals or a group of animals for the specified reason in the specified area.
- Section 11 also allows the hunting or wounding of any wild animal in bodily defence only if it has to be done in good faith and that harmed animal will be the government's property. But claiming defence should not preclude the person's liability under the Act if he was committing an offence under it.

Hunting under Section 12 is permitted

- Apart from these, the Chief Wildlife Warden can permit hunting for the purpose of education, scientific research, and scientific management to a person who has fulfilled the requisites under Section 12 including the payment of prescribed fees.

Hunting rights of scheduled tribes under Section 65

- Section 65 protects the hunting rights of the scheduled tribes in the Union Territory of the Andaman and Nicobar Island which shall not be affected by any provision under the Act.

Under Section 39 hunted animals to be government property

- Any animal held captive or hunted under any provision of this Act or under Section 11 or Section 29(1) or Section 35(6), or are found dead or killed by mistake will belong to the state government.
- But this shall not include vermin. Vermin are pests that cause nuisance and the central government has the authority to declare any wildlife as vermin under Section 62.
- Any animal trophy, article, or uncured trophy or meat derived from the animals referred above will also belong to the government.

- If the animal is hunted in a sanctuary or national park declared by the central government, then that property shall belong to the central government under Section 39(1).

Under Section 51 on the violation of laws under Wildlife Protection Act, 1972

- Under Section 51 of the Act, any violation of the laws and rules as specified under the Act will lead to imprisonment which may extend to three years, and a fine which may extend to twenty-five thousand rupees.
- Any offence against the wildlife animals protected under Schedule I or Part II of Schedule II would lead to imprisonment for a minimum of three years and a minimum fine of ten thousand rupees.
- Further, if the meat of any such animal as specified in the above category, or animal article, trophy, or uncured trophy derived from such animal, this will also be punishable as same as above.
- Lastly, if the offence relates to the hunting of animals in a sanctuary or a National Park, this will also be punishable as the same as above.
- Subsequent violations will result in the punishment for a maximum of three years and a minimum fine of twenty-five thousand.
- The Court, trying the accused persons in the above offence, can order the state government to forfeit any of the materials made out of the wildlife animal. The license of the person can also be seized.

The recognition of protected areas under Wildlife Protection Act, 1972

- The Act categorises certain areas as protected areas in the form of sanctuaries and national parks under Section 18 and Section 35 respectively.

Sanctuaries as a protected area

- Under Section 18, the State Government can declare a certain area as a sanctuary, if it has adequate ecological, faunal, floral, geomorphological, natural, or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment.
- Currently, there are 566 wildlife sanctuaries existing in India.
- Recently, Ramgarh Wildlife Sanctuary was declared as the 52nd wildlife sanctuary by the state government of Rajasthan and the National Tiger Conservation Authority ('NTCA').
- For the purpose of declaring a sanctuary, the area must not be a reserve forest or territorial waters and a visiting permit can be given for the purpose of scientific research, tourism, photography, and transacting lawful business with the person residing in the sanctuary.

On the rights of persons affected

- The rights of the persons affected when the government acquires land for the purpose of establishing a sanctuary will be dealt with by the collector appointed by the State Government.
- The collector is supposed to publish a notification in the regional language and any person having objection can file the same in writing and within two months of such proclamation as specified under Section 21.
- The Act further allows the collector to inquire on the objections which he may accept or reject, based on his finding.
- Once the objections are rejected, the collector is required to go forth on the proceedings to acquire the lands in pursuance of his powers under the Land Acquisition Act, 1894 (as amended in Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013).

National parks as a protected area

- Under Section 35, the State Government can declare an area as a national park based on its ecological, faunal, floral, geomorphological, or zoological importance. That area may also be a sanctuary.
- The State Government shall vest the land rights of that area but cannot alter its boundaries without the prior approval of the national wildlife board.
- No person has the right to destroy or damage the forest produce or divert the wildlife habitat of any animals in the national park.
- Currently, there are 104 national parks recognised and existing in India under the Act.
- The state government can declare an area as a National Park by official notification if it finds that such an area is by reason of its ecological, faunal, floral, zoological association deems fit for the purpose of establishing a national park and developing wildlife therein or its environment. The notification should declare the limits of an area which has to be declared as National Park.
- When an area is to be declared as National Park shall apply for the investigation and determination of claims with respect to the area concerned. When the period for claims has elapsed and if any claim has arisen in relation to the land in question have been disposed of by the State Government, then all rights over the area which has to be declared as national park will be vested in the State Government.
- The alteration of the boundaries of a National Park cannot be made unless there is a resolution passed by the state legislature.
- No person should destroy or damage or exploit or remove any species of wildlife in the National Park except he or she has the permission granted by the Chief Wildlife Warden. Chief Wildlife Wardens can grant such permits to the concerned person only when the State Government is satisfied that such destruction, damage or exploitation is necessary for improvement, maintenance of the wildlife in the National Park.
- The livestock grazing is not allowed within the limited area of the National Park. There is an exception to this rule, only the person who has the permission to enter such a National Park and he or she is using such an animal as a vehicle, then the permission is granted for the livestock grazing.

Central Government's power to declare the National Tiger Conservation Authority

- The Central Government has the power to declare an area as a sanctuary or national park under Section 38, provided that the requirements of Section 18 are fulfilled.

Under Section 38K

- The central authority for the conservation of tigers known as the NTCA (National Tiger Conservation Authority) can also be declared by the government under Section 38K.

Under Section 38L

- The Constitution of the NTCA is specified under Section 38L. The NTCA is headed by the Ministry of Environment, Forest, and Climate Change as its chairperson.
- It also includes a vice-chairperson, three members of the Parliament, eight experts or professionals with qualified knowledge in wildlife and the welfare of people living in tiger reserves, including several other members.

Under Section 38O

- The functions and powers of NTCA as specified under Section 38O include approving the Tiger Conservation Plan made by the state government under Section 38V.

- The Wild Life (Protection) Amendment Act, 2006, added Section 38V which talks about the tiger conservation plan and allows the state government in consultation with the NTCA to declare a particular area as a tiger reserve.
- NTCA has to lay down normative standards for tourism activities including guidelines for project tiger.
- It has to ensure that the protected areas including tiger reserves and areas linking one protected area to another are not diverted for ecologically unsustainable uses.

Under Section 38U

- A Steering Committee is also to be constituted under the Act for the purpose of the state governments to monitor, protect, conserve tigers and co-predators under Section 38U.
- The Steering Committee shall be headed by the chief ministers of the respective states and the state Minister-in-charge of the wildlife as the vice-chairperson.

Under Section 38V

- Section 38V deals with the tiger conservation plan. The plan is to be prepared by the state government. It includes staff development and a deployment plan for the proper management of a tiger reserve.
- Tiger reserves shall also include core or critical tiger habitats areas of national parks and sanctuaries. It may also include buffer and peripheral areas as well.
- The plan must ensure the protection of tiger reserves, ecologically compatible land uses in the tiger reserves, and other areas linking the protected areas for the purpose of ensuring livelihood concerns of the local people and providing site-specific habitat inputs for an increase in tiger population.

Under Section 38X

- Section 38X allows a State Government to establish a tiger conservation foundation within the state to facilitate and support the working of the tiger conversation.
- To facilitate the ecological, social, and cultural development of the tiger reserves and to promote eco-tourism.

Central Zoo authority under Wildlife Protection Act, 1972

Zoos play a vital role in the preservation of wild animals. Section 38A to 38J establishes central zoo authority in India with the objective to conserve biodiversity, particularly animals as per the National Zoo Policy, 1998 and the National Zoo Rules, 1992 (as amended in 2009).

Under Section 38A

- Section 38A allows the Central Government to establish a central zoo authority with the chairperson, member-secretary, and ten other persons as its members.
- These members shall be appointed by the Central Government.

Under Section 38B

- The chairperson and the other ten members shall hold the office for three years and they can send their resignation letter to the central government under Section 38B.
- The Central Government can remove the chairperson and other members from the office, if they become insolvent, get convicted, becomes or are declared as of unsound mind, and refuses to act.

Function and procedure of the zoo authority

- The authority is supposed to recognise and derecognise a zoo and assess the functioning of zoos under Section 38C.

- The recognition of a zoo takes place as per the conditions laid down under Section 38H.
- It also has to ensure the coordination of training of zoo personnel in India and outside.
- The authority is required to lay down the minimum standards for housing, upkeep, and veterinary care of the animals in zoos.
- The authority has the right to regulate its own procedure under Section 38D.

Trade and commerce under Wildlife Protection Act, 1972

Section 39

This section says all the wild animals are Government Property. It states-

- wild animals other than vermin, also wild animals which are found dead, or killed by mistake, Trophy or uncured trophy or other animal article or meat derived from the wild animal, ivory imported to India or any article made by such ivory, any vessel, weapon, trap, tool used to hunt the wild animal in the Zoo shall be the property of the State Government and in case of a National Park or Sanctuary then such will be the property of the Central Government.
- Any person who possesses any Government property, within the time of 48 hours should return it to the nearest police station or authorised officer.
- No person shall without the prior permission of the Chief Wildlife Warden acquire or keep anything in his possession or control, transfer such property by way of gift or sale, destroy or damage such government property.

Section 43

This section talks about the regulations in the trade and transfer of the animals. It states-

- A person who doesn't have the certificate of ownership, shall not in any case sell or offer to sell by the way of sale or by the way of gift any wild animal which are specified in Schedule 1, Schedule 2, they shall not make any article containing part or whole of any animal part or body, should not be involved in the process of taxidermy except when they have the permission from the Chief Wildlife Warden.
- If any person is shifting from one state to another and acquires by transfer any animal article, trophy or any uncured trophy from the state in which he used to reside earlier. Such transfer should be within 30 days reported to the Chief Wildlife Warden or any authorised officer whose jurisdiction the transfer has effected. No person who does not possess the ownership certificate should involve in any act of transfer of any animal or animal article or any uncured trophy.
- While issuing the certificate the Chief Wildlife Warden should do a proper enquiry, shall investigate to whom the earlier ownership certificate belongs to and then issue a fresh certificate in the name of the new owner. Also he or she may affix the identification mark on the body of the animal or uncured trophy or animal article.

A summarized version of the provision is provided hereunder:

- No person shall have the possession, control, custody, sell or offer for sale animals including the trophy or uncured trophy, article, salted or dried skins of such animals belonging to Schedule I or Part II of Schedule II, without the prior permission of the chief wildlife warden of the state under Section 40.
- Animals belonging to Schedule I or Part II of Schedule II are termed as scheduled animals as per Section 49A(a).
- An exception to Section 40 is Section 40(A) where the Central Government, by notification, may allow the same without a declaration.
- If persons are in possession of the animals, animal articles, or trophies, before the commencement of the Act, they must declare it to the chief wildlife warden within 30 days the number and description of animals.

- No person can acquire, receive, possess, custody, or keep in control of any scheduled animal after the 2003 Amendment.
- Any person inheriting the same shall also make a declaration within 90 days to the Chief Wildlife Warden under Section 40(2B).
- A lawful possession under Section 40 can also be acquired as per Section 42 by the Chief Wildlife Warden. A certificate of ownership will allow the person to keep the animals in custody or in possession. However, the sale or transfer of the animals even after the certificate of ownership is prohibited under Section 43 without proper authorisation from the Chief Wildlife Warden.
- A person who has acquired the license cannot capture, control, or take possession of the animal, animal article, uncured trophy, or trophy if a declaration has not been made under Section 44(2). A licensee cannot offer for sale or transport the animals.
- Further, no person can commence a business as a manufacturer or dealer of any animal trophies or articles derived from the scheduled animal under Section 49(B).

Prevention of offence under Wildlife Protection Act, 1972

- The authority to arrest, enter, search, and detention rests with the Director, Chief Wildlife Warden, Forest Officer, and police officer, not below the rank of sub-inspector under Section 50.
- The authority can require such persons to produce for the purpose of inspection any animal, animal article, trophy, specified plant, etc.
- They can stop and search any vehicle or conduct an inquiry by entering upon a premise or land and seize any captive animal, article, trophy, or uncured trophy, etc. Any person detained shall be taken to the Magistrate.
- The power to issue an arrest warrant, compel the attendance of witnesses, receive and record evidence is given to any officer, not below the rank of an Assistant Director of Wildlife Preservation or an officer not below the rank of Assistant Conservator of Forests authorised by the State Government.
- This section deals with the power of entry, search, arrest and detention. It states-
 - Notwithstanding with anything contained under any other law in force in the country if any authorised officer or the Director or any other person authorised by him or any other person authorised by the Chief Wildlife Warden or by Chief Wildlife Warden himself or any forest officer or any police officer who is not below the rank of sub-inspector has certain reasonable grounds that any person has committed any offence against this Act-
 - 2. Can ask such person to produce the required documents or any licence, permit for the inspection of the captive animal, plant or part or derivative of any animal under his control, trophy, uncured trophy, animal article, meat, any specified plant
 - 3. Can stop any vehicle or vessel for the required search or inquiry of any land, vehicle, premises, any baggage or any other things of such kind in his possession
 - 4. Can seize any such animal article, vehicle, vessel, weapon, captive animal, meat, trophy, wild animal, uncured trophy, plant or any part of it unless such authorised person is satisfied that person who has committed crime against this Act will appear and answer any charge which is preferred against him. If the fisherman residing within 10 kms of a Sanctuary or National park uses a boat not used for commercial fishing, in the territorial waters in the sanctuary or national park, no such boat will be seized.
 - Any authorised person can order to stop any activity done by a person without any ownership certificate or licence or any permit, provided that according to this Act the permit or licence is required for such act. It is even lawful for the

- authorised officer to detain any person, to arrest such person unless if he satisfies the officer arresting him that he will duly answer any summons or proceedings which may be taken against him.
- Any person detained or the things which were seized in the course of exercising the power by any authorised officer, shall be produced before the Magistrate to be dealt in accordance with the law.
 - Any person who has been suspected of acting unlawfully under this Act, if fails to produce the required documents, permit or licence or fails to prove his innocence shall be guilty for an offence under this Act.
 - Where any uncured trophy, wild animal, meat, plant or any derivative of it has been seized by authorised officer, such authorised officer can arrange the sale of the same and will acquire and use the proceeds as may be prescribed under this Act. If it was proved that such property does not belong to the Government then such sale proceeds will be given to the owner.
 - If any person approaches any authorised officer for prevention or detection of an offence, such assistance must be provided by the authorised officer.
 - No person who is below the rank of Assistant Director or Wildlife Chief Warden shall have the power to issue the warrant, to compel any person to produce any document, to receive any evidence or to issue a search warrant.

Cognizance of offences under Wildlife Protection Act, 1972

Section 55

This section states that no court should in any case take the cognizance or knowledge of any offence committed against this Act on the complaint of any other person than the Chief Wildlife Warden or any other person authorised in his behalf by the state or the Director of the Wildlife Protection or any other person authorised on his behalf or any person who has been given a notice of 60 days to make a complaint of the alleged offence to the Central Government or State Government or any authorised officer therein.

Forfeiture of property derived from illegal hunting and trade

In the Wildlife Amendment Act of 2002, a new chapter was incorporated which is Chapter 6(A). This chapter states that if any person or any group of persons or any trust acquired any property from illegal hunting or prohibited trade of wild animals under this Act the property would be forfeited by the State Government by the authorised officer. Such forfeiture of the property by the State Government can be done by the procedure established by law and by taking necessary steps such as investigation, search or survey of any property, place, people or documents. If it was found that only a part of property was acquired illegally, such a person would be given a chance and will be asked to pay the fine which is equivalent to the market value of the property.

Current status of wildlife development under Wildlife Protection Act, 1972

Project tiger conservation

Project Tiger Conservation was launched in 1973 to ensure and maintain the population of Bengal tigers. The project tiger is still ongoing with the help of the Ministry of Environment, Forest, and Climate Change.

It allows for the adoption of a conservation plan as specified under Section 38V by the state government for the protection of tiger reserves and their specific habitats. This is for maintaining their population. It is also to maintain ecologically compatible land used in tiger reserves including the linking of it with other protected areas to name a few.

India along with the Kingdom of Bhutan, Bangladesh, Russia, Cambodia, China, Indonesia, Lao, Malaysia, Myanmar, Thailand, Vietnam, and Nepal also entered into the St. Petersburg Declaration to save the remaining tigers in the wild who are on the verge of imminent extinction.

Further, the NTCA in collaboration with the Wildlife Institute of India has published a document 'Connecting Tiger Populations for Long-term Conservation' under which:

- Thirty-two tiger corridors have been identified for managing tiger movements.
- These corridors help in streamlining the infrastructure projects and at the same time include mitigation measures for the safe passage of tigers.

The Eco-friendly Measures to Mitigate Impact of Liner Infrastructure Report is based on 'development without destruction' and allows for mainstreaming biodiversity at every stage of the development process.

This could have been possible by making suitable changes in various legislations such as the Forest Conservation Act, 1980; Coastal Regulation Zone Notification 2011; Forest Rights Act, 2006 and the Environment Impact Assessment Notification of 2006 (as amended in 2009). All of these legislations are in consonance with the objectives under the Wildlife Protection Act, 1972.

Project elephant

Project elephant is a central scheme that was launched by the central government in 1992. It proposed a National Elephant Conversation Authority under it to extend financial assistance to states for the protection and conservation of elephants.

They are included in Schedule I of the Act. Project tiger has also implemented the Monitoring the Illegal Killing of Elephants ('MIKES'). Certain elephant corridors were also identified under the 2010 Report of the Elephant Task Force under the Ministry of Forest, Environment, and Climate Change. Total 88 corridors were identified under the Act.

The Courts have also come forward for the protection of elephant corridors. In a landmark judgment of *A. Rangarajan v. UOI (2018)*, the Court ordered the Tamil Nadu government to close all the illegal resorts in the Nilgiri hills within 48 hours as around that area, the main elephant corridor is there.

Conservation reserves and community reserves as protected areas added by the 2003 amendment

There has been a continuous amendment in the Acts such as the 2003 Amendment that extended the concept of the protected area beyond the sanctuary and national park to include conservation reserves and community reserves under Section 36A and Section 36C respectively.

Conservation and community reserves are referred to as buffer zones and migration corridors which are established in between the protected areas such as the national parks and sanctuaries. Currently, there are 97 conversation reserves and 214 community reserves respectively. Recently, in 2020, Tillari in Maharashtra was declared as a conservation reserve.

This was proposed in the National Wildlife Plan (2002-16). The centrally sponsored scheme (Integrated Development of Wildlife Habitats) was based on the principle of ecocentrism which is nature-centric and allows the human interest to be harmoniously balanced with non-human needs. Protected areas are important and have been globally accepted within the planning approach for the protection of wildlife and conservation of biodiversity.

Wildlife corridors

Recently, India's first urban wildlife corridor is being planned between New Delhi and Haryana. The corridor is near the Asola Bhatti wildlife sanctuary to provide safe passage to wildlife animals such as leopards and other animals.

Wildlife corridors hold a lot of importance in India as these are connected with the protected areas and allow the movement of animals without interfering in human settlement. Often animals in the southern region travel from the protected reserves to other places in search of water.

In such cases, wildlife corridors play a major role such as the Mudahalli Elephant Corridor is connected with the Sathyamangalam Tiger Reserve which usually faces drought during summers.

Because of this, many mammals migrate to Karnataka and Kerala forests in search of water. But because of the corridor, the movement of animals did not interfere with the human population.

That is why wildlife corridors are important to minimize human-wildlife conflict.

Improvements needed in the Wildlife Protection Act, 1972

Issues of poaching and illegal trading persist

The issue of illegal poaching and trading has not been effective as it is still prevalent in many parts of India such as the smuggling of ivory tusk in Karnataka and Odisha. According to the World Wide Fund ('WWF') for Nature's wildlife trade monitoring network (TRAFFIC), the demand for wildlife doubled during lockdown since people took up trading in wildlife as an alternative source of income. There was also an increase in the demand for meat consumption.

In states like Karnataka, Andhra Pradesh, and Jharkhand, Pangolin may become an extinct species as there is an alarming increase in the seizure of its scale and meat.

Using animal skin has been a constant threat to wildlife in India. During the lockdown, since a lot of people took up trading, the use of animal skin such as that of Leopard increased too. In Jammu, the Wild Life Protection Department seized leopard skin and other body parts. Leopard is protected under Schedule I of the Wild Life Protection Act.

Recently, in Odisha, more than 10 leopard skins were seized in three different districts. In the last year, more than 26 leopards have been poached. In one decade, 150 leopards have been poached and hunted across Odisha and their skin and bones have been traded for money in the international market.

The Act does not cover obligations under CITES

Further, the government has recently approved the Char Dham project which is in conflict with the objective of the Act. The Act does not cover India's obligation under the Convention on International Trade in Endangered Species of Wild Fauna and Flora ('CITES'). The CITES is an international treaty that regulates the trade of wildlife species so that their survival is not endangered.

Moreover, the government on 11th June 2020, passed an advisory granting amnesty to individuals in possession of exotic life species protected under CITES. Exotic live species under CITES are those animals or plants that have moved from their original location to a new one. Since then, the trafficking of exotic live species has increased drastically. According to the Smuggling in India Report 2019-2020, there is a considerable increase in the smuggling of endangered and exotic fauna from different parts of the world to India. This is unfortunate.

Freshwater fish species remain threatened

According to the International Union for Conservation of Nature's ('IUCN') Red List, freshwater fish species are currently declining in India. But they are still not at the edge of extinction. The contributors to that are pollution, decreasing water levels, and the loss of river habitats since fisheries experts are not consulted before building dams in India.

Great Indian Bustard remains endangered

Great Indian Bustards ('GIB') are dying in the different sanctuaries because of collisions with windmills and overhead cables. Recently, as reported by the Gujarat government in the last year no GIB has been spotted in the Kutch Bustard Sanctuary.

Consistent decline in the population of migratory birds

India's bird population is sharply declining including that of migratory birds according to the State of Birds' Report 2020 by 80%. The population of migratory birds is declining because of contractual farming and constant inference in the birds' habitats. Migratory shorebirds, gulls, and

terns have declined the most and this could be a long-term decline. Some resident water birds such as swamphens, coots, and storks have declined too.

The Act does not address issues relating to climate change

Further, the law is not updated to accommodate climate change-related concerns and rapidly rising sea levels in the Sundarbans region of India and Bangladesh.

Wildlife development versus economic development

The impact of the act has not been very consistent especially, in recent years where the focus of the government has tremendously shifted to aggressive development whereas, the idea was to follow sustainable development by fulfilling the needs of the present without compromising the needs of the future generation.

The recent policies of the government or the existing acts too reflect the same notion. For instance, the power of the collector to acquire the land under the Act is the same as that in the Land Acquisition Act, 1894.

The amended act named the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, allows the government to acquire land without the required social impact assessment, in urgent cases.

Section 40 of the 2013 Act deals with a situation where the government acquires land for the purpose of national security or defence purposes, or any natural calamity or emergency. Even though this provision might not directly impact the working under the Wildlife Act, it does anyway dilute the power of the collector.

The 2013 Act also allows for the government to acquire land of the Scheduled Caste and Scheduled Tribes.

Further, the national wildlife board has cleared certain infrastructural projects such as a railway line through the Kawal Tiger Corridor in Telangana and the railway expansion through the Bhagwan Mahavir Wildlife Sanctuary and the Mollem National Park in Goa.

The Supreme Court came down heavily on the government for giving the clearance for the railway expansion in Goa. The Court's Central Empowered Committee constituted to study whether the clearance should be given or not has termed that the area has a fragile ecosystem. And the railway expansion will destroy it.

These wildlife clearances without proper environmental impact assessment are directly attributed to bureaucratic interference.

Case laws

- *State of Bihar v. Murad Ali Khan, Farukh Salauddin (1988)* is a case that dealt with poaching and hunting of elephants for the smuggling of ivory tusks where the court observed that the "largest single factor in the depletion of the wealth of animal life in nature has been the civilised man operating directly through excessive commercial hunting".
- In *Balram Kumawat v. UOI (2003)*, the court re-emphasised that the act puts a complete ban on the trade of African elephant ivory and there cannot be a legitimate claim of violation of the right to freedom of trade under Article 14 and Article 19(1)(g) since the ban is a reasonable restriction under Article 19(2).
- *Sansar Chand v. State Of Rajasthan (2010)* highlighted the detrimental effect legal trading and commerce of wildlife has caused to the environment and the same is not effectively curbed despite the prohibition under the Wildlife Act. These organised crimes are transnational because there is apparently no trade taking place within India but the same is smuggled outside India to meet the demands of other countries such as poaching of tigers for the Chinese medical industry.
- In *Mahaveer Nath v. UOI (2019)*, the constitutional validity of Sections 9 and 11 was challenged on the ground that the restrictions mentioned under those Sections deprived the petitioner of his right to livelihood.

- The petitioner is a member of the Nath/Sapera community who is deprived to carry out the vocation of snake charming for his livelihood except on certain days where snakes are worshipped. This community was referred to as “barefoot conservative educators” to highlight their vital role in sensitizing people to reptiles.
- The petition was challenged on the ground that Section 9 has resulted in the prohibition of keeping of snakes and thus, it violates the fundamental right to trade under Article 19(1)(g) and Article 21 of the Constitution. The Court observed that Article 19(1)(g) is not an absolute right but a qualified right and reasonable restrictions can be imposed on the same for the general welfare of the public.

The Wild Life (Protection) Act, 1972, is a crucial legislation in India aimed at protecting and conserving wildlife and their habitats. It establishes provisions for the protection of wild animals, specified plants, and the declaration and management of protected areas such as sanctuaries and national parks. Let's explore the key sections of the Act:

Definitions:

The Act begins with defining key terms essential for interpreting its provisions. These definitions include terms like animal, hunting, wildlife, sanctuary, national park, and forest produce, among others. These definitions provide clarity and establish the scope of the Act's applicability.

Hunting of Wild Animals (Sections 9, 11, and 12):

Sections 9, 11, and 12 of the Act deal with the hunting and poaching of wild animals. These sections prohibit the hunting, capturing, or killing of any wild animal, unless specifically allowed under certain circumstances and with appropriate permits. They establish penalties for offenses related to hunting or poaching, including imprisonment and fines. These provisions aim to prevent the illegal trade in wildlife and protect endangered species from exploitation.

Protection of Specified Plants (Sections 17A-H):

Sections 17A to 17H of the Act focus on the protection of specified plants. These sections prohibit the picking, uprooting, damaging, or destroying of certain specified plants, unless authorized for specific purposes. They also establish penalties for offenses related to the illegal trade, possession, or transportation of specified plants. These provisions aim to safeguard endangered plant species and maintain the ecological balance.

Protected Areas: Sanctuaries, National Parks & Closed Areas (Sections 18-49C):

Sections 18 to 49C of the Act pertain to the establishment and management of protected areas, including sanctuaries, national parks, and closed areas. These sections empower the central and state governments to declare areas as sanctuaries or national parks for the conservation and protection of wildlife and their habitats. They outline the process for declaration, notification, and management of these protected areas, including regulations for activities, permissions, and the prohibition of certain actions within these areas.

Offenses against Wildlife (Sections 50-58Y):

Sections 50 to 58Y of the Act establish offenses and penalties related to the violation of its provisions. These sections cover a wide range of offenses, including illegal possession, trade, transportation, or collection of wildlife or wildlife products. They also address offenses related to the damaging or destroying of habitats, possession of trophies or animal articles, and non-compliance with the provisions of the Act. The penalties for these offenses vary depending on the severity of the offense and may include imprisonment, fines, or both.

The Wild Life (Protection) Act, 1972, plays a critical role in the conservation and protection of wildlife and their habitats in India. By establishing legal provisions for the protection of wild animals, specified plants, and the declaration of protected areas, the Act seeks to ensure the sustainable management of wildlife resources and biodiversity. The Act's penal provisions aim to deter offenses and promote compliance with wildlife conservation laws.

It is important to note that the Act works in conjunction with other environmental and forest laws to ensure comprehensive protection and conservation of wildlife in the country.

3. Rules addressing some environmental problems-

Bio-Medical Waste Rules 2016

Hospitals and various other laboratories engender a wide range and a significant quantity of wastes (including biomedical or infectious waste) that has the ability to give rise to various health problems and environmental hazards. Generally in India, 1-2 kg waste per bed per day in a hospital and 600 gm waste per day per bed in a clinic is generated, out of which more than 15% is hazardous or infectious and this hazardous waste is mixed with remaining waste which results into the contamination of the entire waste. This is why proper, effective, and efficient rules and regulations are needed for segregation and disposal of waste. The sustainable management of these wastes is the social and legal responsibility of the government as well as the public at large. So these wastes have to be properly collected, transported, and disposed of in order to safeguard the environment, and to streamline these activities various guidelines and rules were published by the Government of India in 1998 known as the Biomedical Waste (Management and Handling) Rules, 1998.

These rules are continuously monitored, altered, and updated from time to time as effective management is necessary for a cleaner and greener environment. In 2016, the Government of India decided to publish a new set of rules, Biomedical Waste Management Rules, 2016, supervening the old one with various changes and additions in order to improve the collection, segregation, treatment, and disposal facilities of these biomedical waste produced by the hospitals and laboratories to mitigate the environmental pollution. The treatment technologies identified include incineration, microwaving, autoclaving, and chemical treatment. This article includes the objective, salient features, and suggestions regarding the new rules i.e. Biomedical Waste Management Rules, 2016.

Biomedical waste

Biomedical waste (hereinafter BMW) is defined under the rules as any waste produced during the diagnosis, treatment, or immunization of human or animal research activities pertaining thereto or in the production or testing of biological or in health camps.

In simple words, these wastes include animal anatomical waste, human waste, medical apparatus like syringes, needles, and other materials used in hospitals and other laboratories (research center, nursing homes, blood bank, pathological laboratories, etc) in the process of research and treatment.

Biomedical wastes are divided into four color category:

1. **Yellow:** In this category, eight types of waste are categorized- Human anatomical waste, animal anatomical waste, soiled waste, expired or discarded waste, chemical waste, chemical liquid waste (separate collection system leading to effluent treatment system), discarded linen, mattresses, beddings contaminated with blood or body fluid, and microbiology, biotechnology, and other clinical laboratory waste.
2. **Red:** It includes contaminated waste that is recyclable like waste generated from disposable items such as tubing, bottles, intravenous tubes and sets, urine bags, syringes, and gloves.
3. **White (Translucent):** It includes waste sharps including metals (includes used, contaminated and discarded metal sharps)

4. Blue: It includes broken or contaminated or discarded glass and metallic body implants.

Objective

The main objective of these rules is based on the concept of 3Rs, namely, reduce, recycle, and reuse. It aims to delimit the waste, recover or reuse it as much as possible, and avoid disposing of it. The waste should be tackled at the origin or at source rather than the “end of pipe approach”.

These guidelines mainly focus on the application and implementation of rules and regulations for the betterment of the environment as well as the people. In these rules, it was explicitly mentioned that these guidelines don't apply to hazardous chemicals, municipal solid waste, radioactive waste, lead-acid batteries, e-waste, genetically engineered organisms, and cells, and hazardous microorganisms which are governed under other rules. The important elements of the rules are training to workers, health checkups, immunization, and occupation safety of the workers.

As per the Indian government data, the total biomedical waste generated is 484 tonnes per day from 1,68,869 health care facilities in the country but only 447 tonnes per day is treated. There are only 198 common biomedical waste treatment facilities in operation. The number of healthcare facilities using common biomedical waste treatment facilities is 1,31,837 and approximately 21870 health care facilities have their own treatment facilities on-site. To overcome this problem, these stringent rules have been notified by the government and to ensure no pilferage of recyclables items occurs.

Main provisions

These rules have been modified completely to ensure the management of regulation of biomedical waste in the country. The term ‘handling’ is also being removed from the name which gives more clarity about the management and implications of the rules. Some of the updated and salient features of the rules are as follows:

1. Now the wastes from vaccination camps, blood donation camps, and surgical camps are also included, thus expanding the scope of the rules.
2. Duties of both occupiers (one who has administrative control over the health care facilities that is generating biomedical wastes) and operators (one who controls the facilities of collection, reception, transportation, treatment, and disposal of biomedical wastes) are unambiguously specified under these rules.
3. Setting up of a barcode system for biomedical waste that is to be sent for treatment or disposal.
4. Maintenance of biomedical waste register daily and monthly updates on the website either by the operator or occupier and also the maintenance of all the records for operation of hydroclaving/incineration/autoclaving for a period of 5 years.
5. The method i.e. segregation, packaging, transportation, and storage of biomedical wastes has been improved and the waste has been classified into four categories instead of ten for efficacious management.
6. There should be a distance of seventy-five kilometers of common biomedical waste treatment facility and onsite treatment or disposal facility. State governments should also provide the land for the establishment of a common biomedical waste treatment facility and disposal facility.
7. The use of chlorinated plastic gloves, bags, blood bags, etc. should be gradually stopped.
8. Compulsory pretreatment of the laboratory, microbiological waste, and blood bags on-site before disposal either at Common biomedical waste treatment facility or on-site. The method of sterilization/disinfection should be in accordance with the World Health Organisation or the National AIDS Control Organization (NACO).
9. Standards for emission from incinerators have been modified to be more environmentally friendly. Residence time in the secondary chamber of the incinerator – two seconds;

standard for dioxin and furans – 0.1 ng TEQ/Nm³ are the permissible limit for SPM-50 mg/nm³.

10. The Ministry of Environment, Forest, and Climate change will monitor the implementation of rules yearly. The responsibility of each state to check for compliance will be done by setting up a district-level committee under the chairpersonship of District Collector or District Magistrate or Additional District Magistrate. In addition, every 6 months, this committee shall submit its report to the State Pollution Control Board.

Reforms and suggestions medical

Biomedical waste Management Rules, 2016 was also altered and updated to improve compliance and strengthen the implementation for a better environment. In 2018, the Government of India published the Bio-Medical Waste Management (Amendment) Rules, 2018. Some of the major reforms in 2018 rules are:

1. Complete phasing out of chlorinated plastic items such as bags and gloves from the bio-medical waste generators including hospitals, dispensaries, animal houses, clinics, nursing homes, blood banks, etc.
2. Within two years of the publication of these rules, all institutions have to publish an annual report on its site.
3. In accordance with the guidelines issued by the Central Pollution Control Board, all the operators of common bio-medical waste treatment and disposal facilities have to establish a global positioning system and as well as a barcoding system for handling of bio-medical waste.
4. The State Pollution Control Board has to compile, review and analyze the information received by the operators and also have to send these reports to the Central Pollution Control Board, which keeps detailed information regarding district-wise waste generation.

One of the major challenges that will be faced by the healthcare facilities and hospitals in implementing these rules and guidelines is Lack of funds- as to phase out chlorinated plastic bags and to establish a global positioning and a barcode system for biomedical waste, a huge cost will be incurred and the time span for the same is very short i.e. two years.

Another major challenge is the use of incinerators and the hazards it causes. After implementing the first rules in 1998, India saw a boom in the installation of incinerators. It is the system that is based on the high temperature that kills the pathogen and in the process, it also destroys the material in which the microbes reside. But the limitation of this system is that it produces a number of toxins during the process such as products of incomplete combustion and dioxins. These products of incomplete combustion are the particles that are formed during incineration and dissociation of waste components. By this method, metals are not destroyed but dispersed into the environment causing serious health problems. These toxins have a tendency to accumulate in fatty acids and travel up the food chain. This damages the immune and endocrine system of humans. In foreign countries like the Philippines and Denmark, the construction and use of incinerators are banned, similar steps should be taken by the Government of India to mitigate these toxins from the environment.

The major technology used for disposal of biomedical waste is incineration, microwaving, autoclaving, and chemical treatment, but apart from these some new technologies have also been developed or are still under research such as thermal processes, biological processes, irradiative processes, and chemical processes. In the thermal processes mostly waste including cultures, soft waste (gauze, bandages, and gowns), human waste, laboratory waste, and sharp medical instruments are sterilized. These thermal processes are divided into three groups- low heat technologies (operating between 93 C and 177 C) which include microwaves and autoclaves, medium heat technologies(operating between 177 C and 540 C) which include reverse

polymerization and thermal depolymerization, and high heat technologies (operating between 540C and 8300C) which include plasma, induction, lase oxidation based pyrolysis. In biological processes, bio converter and biodegradable plastic systems are used for the disposal of biomedical waste.

Hazardous wastes Rules 1989

Hazardous Waste (Management and Handling) Rules, 1989

In exercise of the powers conferred by sections 6, 8 and 25 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby makes the following rules, namely :

1. Short title and commencement

(1) These rules may be called the Hazardous Wastes (Management and Handling) Rules, 1989. (2) They shall come into force on the date of their publication in the official Gazette.

2. Application

These rules shall apply to the handling of hazardous wastes as specified in Schedule and shall not apply to-

- (a) waste water and exhaust gases as covered under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) and the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) and rules made thereunder;
- (b) wastes arising out of the operation from ships beyond five kilometres as covered under the provisions of the Merchant Shipping Act, 1958 (44 of 1958) and the rules made thereunder,
- (c) radio-active wastes as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made thereunder,

3. Definitions

In these rules, unless the context otherwise requires,-

- (a) "Act" means the Environment (Protection) Act, 1986 (29 of 1986);
- (b) "applicant" means a person or an organisation that applies, in Form 1, for granting of authorisation to perform specific activities connected with handling of hazardous wastes;
- (c) "authorisation" means permission for collection, reception, treatment, transport, storage and disposal of hazardous wastes granted by the competent authority in Form 2;
- (d) "authorised person" means a person or an organisation authorised by the competent authority to collect, treat, transport, store or dispose of hazardous wastes in accordance with the guidelines to be issued by the competent authority from time to time;
- (e) "export" with its grammatical variation and cognate expression means taking out of India to a place outside India;
- (f) "exporter" means any person under the jurisdiction of the exporting country who exports hazardous wastes and the exporting country itself, who exports hazardous wastes;
- (g) "facility" means any location wherein the processes, incidental to the waste generation collection, reception, treatment, storage and disposal are carried out;
- (h) "Form" means Form appended to these rules; (i) "hazardous wastes" means,
 - (a) Waste Substances which are generated in the process indicated in column-2 of

- Schedule-1 and consists of wholly or partly of the waste substances referred to in column - 3 of the same schedule;
- (b) Waste substances which consists wholly or partly of substances indicated in Schedule-2, unless the concentration of the substances is less than the limit indicated in the same schedule: and
- (c) Waste substances indicated in Part-A, List 'A' and 'B' of Schedule -3 applicable only to rule 12, 13 and 14 unless they do not possess any of the hazardous characteristics in Part-B of the same schedule.
- (j) "hazardous wastes site" means a place for collection, reception, treatment, storage and disposal of hazardous wastes which has been duly approved by the competent authority;
- (k) "import" with its grammatical variations and cognate expressions, means bringing into India from a place outside India;
- (l) "importer" means an occupier or any person who imports hazardous wastes;
- (m) "operator of a facility" means a person who owns or operates a facility for collection, reception, treatment, storage and disposal of hazardous wastes;
- (n) "Schedule" means Schedule appended to these rules;
- (o) "State Pollution Control Board" means the Board appointed under sub-section of the section 4 of the Water (Prevention and Control of Pollution) Act 1974 (6 of 1974); and under Section 4 of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981);
- (p) "transboundary movement" means any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one country to or through an area under the national jurisdiction of another country or to or through an area not under the national jurisdiction of any country, provided at least two countries are involved in the movement;
- (q) "disposal" means deposit, treatment, storage and recovery of any hazardous wastes;}
- (r) "manifest" means transporting document originated and signed by the occupier in accordance with rule 7(4) and 7(5);
- (s) "State Government" means State Government and in relation to Union Territory the Administrator thereof appointed under Article 239 of the Constitution;
- (t) "storage" means keeping hazardous wastes for a temporary period, at the end of which the hazardous waste is treated and disposed off;
- (u) "transport" means movement of hazardous waste by air, rail, road or water;
- (v) "transporter" means a person engaged in the off-site transportation of hazardous waste by air, rail, road or water;
- (w) "treatment" means a method, technique or process, designed to change the physical, chemical or biological characteristics or composition of any hazardous waste so as to render such wastes harmless;
- (x) "environmentally sound management of hazardous wastes" means taking all steps to ensure that the hazardous wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes;
- (y) "illegal traffic" means any transboundary movement of hazardous wastes as specified in rule 15;
- (z) the words and expressions used in these rules and not defined but defined in the Act, shall have the meanings respectively assigned to them in the Act.

4. Responsibility of the occupier and operator of facility for handling of wastes

- (1) The occupier and the operator of a facility shall be responsible for proper collection, reception, treatment, storage and disposal of hazardous wastes listed in Schedule 1,2

and 3.

- (2) The occupier or any other person acting on his behalf who intends to get his hazardous waste treated by the operator of a facility under sub-rule (1), shall give to the operator of a facility, such information as may be specified by the State Pollution Control Board.
- (3) It shall be the responsibility of the occupier and the operator of a facility, to take all steps to ensure that the wastes listed in schedules -1, 2 and 3 are properly handled, and disposed of without any adverse effects to the environment.

4A. Duties of the occupier and operator of a facility

It shall be the duty of the occupier and the operator of a facility to take adequate steps while handling hazardous waste to

- (i) Contain contaminants and prevent accidents and limit their consequences on human and the environment; and
- (ii) provide persons working on the site with information, training and equipment necessary to ensure their safety.

4B. Duties of the Authority

Subject to the provisions of these rules, the authority shall also perform duties as specified in Column 3 of Schedule 4.

5. Grant of authorization for handling hazardous wastes

- (1) Hazardous wastes shall be collected, treated, stored and disposed of only in such facilities as may be authorized for this purpose.
- (2) Every occupier generating hazardous wastes and having a facility for collection, reception, treatment, transport storage and disposal of such wastes shall make an application in Form 1 along with a sum of rupees seven thousand five hundred only for processing application for authorization and analysis fee, if required, as prescribed under the Environment (Protection) Act, 1986 to the State Pollution Control Board for the grant of authorization for any of the above activities:
Provided that the occupier not having a facility for the collection, reception, treatment, transport, storage and disposal of hazardous wastes shall make an application to the Member-Secretary, State Pollution Control Board or any officer designated by the Board in Form 1 for the grant of authorisation within a period of six months from the date of commencement of these rules.
- (3) Any person who intends to be an operator of a facility for the collection, reception, treatment, transport, storage and disposal of hazardous wastes, shall make an application in Form 1 along with a sum of rupees seven thousand five hundred only for processing application for authorization and analysis fee, if required, as prescribed under the Environment (Protection) Act, 1986 to the Member-Secretary, State Pollution Control Board or any officer designated by the Board for the grant of authorization for any of the above activities:
Provided that the operator engaged in the business of the collection, reception, treatment, transport, storage and disposal of hazardous wastes shall make an application to the Member-Secretary, State Pollution Control Board or any officer designated by the Board in Form 1 for the grant of authorisation within a period of six months from the date of commencement of these rules.
- (4) The State Pollution Control Board shall not issue an authorisation unless it is satisfied that the operator of a facility or an occupier, as the case may be, possesses appropriate facilities, technical capabilities and equipment to handle hazardous wastes safely.

- (4A) the authorization application complete in all respects shall be processed by the State Pollution Control Boards within ninety days of the receipt of such application
- (5) The authorization to operate a facility shall be issued in Form 2 and shall be subject to conditions laid down therein.
- (6) (i) An authorization granted under this rule shall unless sooner suspended or cancelled, be in force for a period of five years from the date of issue or from the date of renewal. (ii) An application for the renewal of an authorisation shall be made in Form 1r before its expiry.
 - (iii) The authorization shall continue to be in force until it is renewed or revoked.
- (7) The Member-Secretary, State Pollution Control Board or any officer designated by the Board, may, after giving reasonable opportunity of being heard to the applicant refuse to grant any authorization.
- (8) The Member-Secretary, State Pollution Control Board or any officer designated by the Board shall renew the authorization granted under sub rule (6), after examining each case on merit, subject to the following:
 - (i) On submission of annual returns by the occupier or operator of facility in Form 4; (ii) on steps taken, wherever feasible, for reduction in waste generated or recycled or reused;
 - (iii) On fulfillment of conditions prescribed in the authorization regarding management in an environmentally sound manner of wastes; and
 - (iv) On remittance of a processing application fee and analysis fee, as the case may be.

6. Power to suspend or cancel an authorization

- (1) The State Pollution Control Board or Committee may cancel an authorization issued under these rules or suspend it for such period as it thinks fit, if in its opinion, the authorized person has failed to comply with any of the conditions of the authorization or with any provisions of the Act or these rules, after giving the authorized person an opportunity to show cause and after recording reasons therefore.
- (2) Upon suspension or cancellation of the authorization and during the pendency of an appeal under rule 12, the State Pollution Control Board or Committee may give directions to the persons whose authorization has been suspended or cancelled for the safe storage of the hazardous wastes, and such person shall comply with such directions.

7. Packaging, labeling and transport of hazardous wastes

- (1) The occupier or operator of a facility shall ensure that the hazardous wastes are packaged, based on the composition in a manner suitable for handling, storage and transport and the labeling and packaging shall be easily visible and be able to withstand physical conditions and climatic factors.
- (2) Packaging, labeling and transport of hazardous wastes shall be in accordance with the provisions of the rules made by Central Government under the Motor Vehicles Act, 1988 and other guidelines issued from time to time.
- (3) All hazardous waste containers shall be provided with a general label as given in Form 8.
- (4) No transporter shall accept hazardous wastes from an occupier for disposal unless it is Accompanied by five copies of the manifest (Form 9) as per the colour codes. The transporter shall give a copy of the manifest signed and dated to the occupier and retain the remaining four copies to be used as prescribed in sub- rule (5).
- (5) Occupier shall provide the transporter with six copies of the manifest as per the colour codes indicated below:

- (6) The occupier shall obtain necessary no-objection certificate from State Pollution Control Boards in the respective states involved in case of any inter and intra State transport of hazardous wastes;
- (7) The occupier shall provide the transporter with relevant information in Form 10, regarding the hazardous nature of the wastes and measures to be taken in case of an emergency.

8. Disposal Sites

1. The occupier or any operator of a facility shall be responsible for identifying sites for establishing hazardous wastes disposal facility;
2. The State Government, operator of a facility or any association of occupiers shall identify sites for common hazardous wastes disposal facility in the state;
3. The State Government, occupier or any association shall after preliminary impact assessment studies identify possible sites for disposal facility. They shall then undertake an Environmental Impact Assessment of these sites for selecting an appropriate site for hazardous waste disposal facility;
4. The occupier or any association after identification as prescribed in sub-rule (3) shall inform the State Government to take necessary action for notifying of the site;
5. The State Government shall after identification or on receipt of information regarding identification by such occupier or any such association shall cause a public notice inviting objections and suggestions within thirty days;
6. The state Government shall on receipt of any objection conduct a public hearing as per the procedure notified for Environmental Impact Assessment;
7. The state Government shall then, acquire or inform such occupier or any such association to acquire the site before notifying the same. It shall also undertake to compile and publish periodically an inventory of such disposal sites in the state;
- 8A. Design and setting up of disposal facility:
 1. The occupier, any association or operator of a facility, as the case may be shall design and set up disposal facility as per the guidelines issued by the Central Government or the State Government as the case may be;
 2. The occupier, any association or operator, shall before setting up a disposal facility get the design and the layout of the facility approved by the State Pollution Control Board;
 3. The State Pollution Control Board shall monitor the setting up and operation of a facility regularly.

8B. Operation and closure of landfill site:

1. The occupier or the operator as the case may be, shall be responsible for safe and environmentally sound operation of the facility as per design approved under Rule 8A by the State Pollution Control Board;
2. The occupier or the operator shall ensure that the closure of the landfill is as per the design approved under Rule 8A by the State Pollution Control Board.

9. Records and returns

- (1) The occupier generating hazardous waste and operator of a facility for collection, reception, treatment, transport, storage and disposal of hazardous waste shall maintain records of such operations in Form 3.
- (2) The occupier and operator of a facility shall send annual returns to the State Pollution Control Board or Committee in Form 4.

10. Accident reporting and follow-up

Where an accident occurs at the facility or on a hazardous waste site or during transportation of hazardous wastes, the occupier or operator of a facility shall report immediately to the State Pollution Control Board or Committee about the accident in Form 5.

11. Import and Export of Hazardous Wastes for dumping and disposal

- (1) Import of hazardous wastes from any country to India and export of hazardous wastes from India to any country for dumping or disposal shall not be permitted.
- (2) The exporting country or the exporter as the case may be, of hazardous wastes shall communicate in Form 6 to the Central Government (the Ministry of Environment and Forests) of the proposed trans-boundary movement of hazardous wastes.
- (3) The Central Government shall, after examining the communication received under sub-rule(2) and on being satisfied that the import of such hazardous wastes is to be used for processing or reuse as raw material grant permission for the import of such wastes subject to such conditions as the Central Government may specify in this behalf and if, however, the Central Government is not satisfied with the communication received under sub-rule (2), may refuse permission to import such hazardous wastes.
- (4) Any importer importing hazardous wastes shall provide necessary information as to the type of hazardous wastes he is to import, in Form 6, to the concerned State Pollution Control Board/the Central Pollution Control Board in the case of Union Territories.
- (5) The State-Pollution Control Board shall examine the information received under the sub-rule (4) and issue such instructions to the importers as it considers necessary.
- (6) The Central Government or the State Pollution Control Board, as the case may be, shall inform the concerned Port Authority to take appropriate steps regarding the safe handling of the hazardous wastes at the time of off-loading the same.
- (7) Any person importing hazardous wastes shall maintain the records of the hazardous wastes imported as specified in Form 7 and the records so maintained shall be open for inspection by the State Pollution Control Board/the Ministry of Environment and Forests/the Central Pollution Control Board in the case of Union Territories or an officer appointed by them in this behalf.

12. Import and Export of Hazardous Wastes for recycling and reuse

1. Import and/or export of hazardous wastes rule 3(i)(c) shall only be permitted as raw material for recycling or reuse;
2. The Ministry of Environment and Forests shall be the nodal Ministry to deal with transboundary movement of hazardous waste;
3. For regulation of export and import the authorities mentioned in Schedule 4 shall be responsible;
4. The decision of the Central Government in respect of grant of permission for import or export shall be final;
5. Any occupier importing or exporting hazardous waste shall provide detailed information in Form 7A to the Customs authorities.
6. Any occupier exporting or importing hazardous waste from or to India shall comply with the articles of the Basel Convention to which the Central Government is a signatory.

13. Import of Hazardous Waste

1. Every occupier importing hazardous waste shall apply to the State Pollution Control

Board, one hundred twenty days in advance in Form-6 for permission to import along with a minimum fee of rupees thirty thousand payable to Ministry of Environment and Forests, Govt. of India

for imports upto five hundred metric tonnes and for every additional five hundred metric tonnes or part thereof of waste imported an additional sum of rupees five thousand will be payable;

2. The State Pollution Control Board shall examine the application received from the occupier within thirty days and forward the application with recommendation and requisite stipulations for safe transport, storage and processing, to the Ministry of Environment and Forests;
3. The Ministry of Environment and Forests, Government of India will examine the application received from the State Pollution Control Board and after satisfying itself will grant permission for imports subject to the following:-
 - a. environmentally friendly/ appropriate technology used for re-processing;
 - b. the capability of the importer to handle and reprocess hazardous wastes in an environmentally sound manner;
 - c. presence of adequate facility for treatment and disposal of wastes generated; and
 - d. approvals, no objection certificates and authorizations from all concerned authorities; and
 - e. remittance of a processing application fee;
4. The Ministry of Environment & Forests, Government of India, shall forward a copy of the permission granted, to the Central Pollution Control Board, the State Pollution Control Board and the concerned Port and Customs authorities for ensuring compliance of the conditions of imports and to take appropriate steps for safe handling of the waste at the time of off-loading;
5. An application for licence to the Directorate General of Foreign Trade for import shall be accompanied with the permission granted by the Ministry of Environment and Forests, Government of India under sub-rule (3) to the importer and an authenticated copy of Form 7 of the Exporter under sub rule (3) of rule 14;
6. The Port and Custom authorities shall ensure that the shipping document is accompanied with an authenticated copy of Form 7 and the test report from an accredited laboratory of analysis of the hazardous waste shipped;
7. The occupier having valid permission to import shall inform the State and Central Pollution Control Board and the Port authorities of the arrival of the consignment of hazardous wastes ten days in advance;
8. The occupier importing hazardous waste shall maintain the records of hazardous waste imports as specified in Form 6A and the record so maintained shall be available for inspection;

14. Export of Hazardous Waste

1. The exporting country or the exporter as the case may be, of hazardous waste shall apply ninety days in advance in Form 7 to the Ministry of Environment and Forests, Government of India, seeking permission for the proposed export and transboundary movement;
2. The Ministry of Environment and Forests, Government of India, on receipt of such Form 7 from an exporter or an exporting country shall examine the case on merit and grant or refuse permission for export to India;
3. The Ministry of Environment and Forests, shall communicate the grant of permission by authentication on Form 7 to the exporter and the exporting country and endorse a

- copy of the same to the Central Pollution Control Board and the State Pollution Control Board;
4. The exporter shall ensure that no consignment is shipped prior to the requisite authentication being received. The exporter shall also ensure that the shipping document is accompanied with Form 7A, an authenticated copy of Form 7 and an authenticated copy of the test report from an accredited laboratory of analysis of the hazardous waste;
 5. The occupier, exporting hazardous waste to any other country shall seek permission from the competent authority of that country prior to any shipment;
 6. Every occupier exporting hazardous waste shall inform the Central Government of the permission sought for exporting, permission granted for export and details of the export in Form 7.

15. Illegal Traffic

- (1) The movement of hazardous wastes from or to the country shall be considered illegal:
 - i. if it is without prior permission of the Central Government; or
 - ii. if the permission has been obtained through falsification, mis- representation or fraud; or
 - iii. it does not conform to the shipping details provided in the document;
- (2) In case of illegal movement, the hazardous wastes in question;
 - i. shall be shipped back within thirty days either to the exporter or to the exporting country;
 - ii. shall be disposed of within thirty days from the date of off-loading subject to inability to comply with Sub-rule 2(i) above.
- (3) In case of illegal transboundary movement of hazardous wastes, the occupier exporting hazardous waste from the country or the exporter exporting hazardous waste to the country and importer importing hazardous waste into the country shall ensure that the wastes in question is safely stored and shipped or disposed off in an environmentally sound manner within thirty days from the date of off-loading;
- (4) The exporting country shall bear the costs incurred for the disposal of such wastes.

16. Liability of the occupier, transporter and operator of a facility

1. The occupier, transporter and operator of a facility shall be liable for damages caused to the environment resulting due to improper handling and disposal of hazardous waste listed in schedule 1, 2 and 3;
2. The occupier and operator of a facility shall also be liable to reinstate or restore damaged or destroyed elements of the environment;
3. The occupier and operator of a facility shall be liable to pay a fine as levied by the State Pollution Control Board with the approval of the Central Pollution Control Board for any violation of the provisions under these rules.

17. Transitional

provisions where-

- a. On the date of coming into operation of these rules, an occupier handling hazardous wastes who is required to comply with the provisions of these rules, it will be sufficient compliance if the occupier and the authorities do so within three months after the date of coming into force of these rules;
- b. State Pollution Control Boards and Pollution Control Committees are required to oversee the compliance.

18. Appeal

1. An appeal shall lie, against any order of grant or refusal of an authorisation by the Member-Secretary, State Pollution Control Board or any officer designated by the Board to the Secretary, Department of Environment of the State Government by whatever name called.
2. Every appeal shall be in writing and shall be accompanied by a copy of the order appealed against and shall be presented within thirty days of the receipt of the order passed.

Noise Pollution Rules 2000

According to Nobel Prize winner Robert Koch “a day will come when man will have to fight merciless noise as the worst enemy of health.” Noise pollution can be defined as offensive or unwanted sounds that unreasonably intrude into our daily activities. Unlike other pollutants such as air, water, and soil, noise was not considered an environmental pollutant in early times. It was only after the advent of industrialization when industries began to set up and population increased that noise pollution was seen as a serious threat to the environment and the species alike.

A study conducted by the World Health Organization in 2011 suggests that one million healthy years of life are lost in Europe due to excessive noise pollution. Even Article 45 of the Universal Declaration of Human Rights 1948 stresses on the quality of human living from the health point of view. The article lays stress on the available legislations on the subject and their effectiveness in the society so far.

Need for noise pollution

Physical effects

Noise control is important because it causes various physical health hazards to the people. It leads to various physical impairments such as hearing loss, fatigue, hypertension, headaches, rise in blood pressure, inefficiency at work, etc. With the advent of industrialisation and urbanisation in the society, industrial workers have been the worst victims of the deleterious effects of noise pollution. It has been observed that the continuous exposure to more than 85 db volume has caused headaches, change in moods, and nausea in industrial workers. Another group of people worst affected are the children which affect their learning and reasoning abilities.

Psychological effects

It leads to mental disorders due to undesired noise. Distractions and annoyances due to increased noise cause tensions in modern living. It not only creates new illnesses such as anxiety, depression, and insomnia but aggravates the already present illnesses from allergies, stomach ulcers, and mental illnesses to cardiovascular diseases, neurosis and circulatory diseases.

Economic losses

Noise pollution not only causes physical and psychological effects on humans but also leads to huge economic losses. It includes the costs of the medical treatments on ailments caused due to excessive noise pollution. It also includes the losses caused due to the devaluation of property prices due to non-peaceful environments.

Infringement of Article 21

Noise control is important because everybody has the right to a peaceful environment and a valuable existence and not a mere animal existence as provided under Article 21 of the Indian Constitution. In Re: Noise Pollution case, the court held that “no one can claim a right to create noise

even in his own premises that would travel beyond his precincts and cause the nuisance to neighbours or others.”

Various statutes for noise pollution

There is no dearth of laws on the control of noise pollution, but statutory provisions alone are of little or no use unless they are implemented effectively. In the following article, some of the laws dealing directly/indirectly with noise pollution have been discussed.

Aircraft Act, 1934

Under the Aircraft Act of 1934, the Union Government has been vested with the power to make rules for the manufacture, possession, use, operation, sale, import, or export of any aircraft. However, this act does not directly deal with providing any prohibitions on the noise emitted by aircrafts. The only safeguard it provides for the control of noise pollution caused due to the frequent take-off and landing is that the aerodromes used in the aircrafts be constructed far away from residential areas.

It was only after the formulation of the Aircraft Rules of 1946 that the central government was given the power to formulate laws to control air pollution. The rules also imposed a duty on the factories manufacturing aircrafts to take adequate measures to control noise.

The Environment Protection Act, 1986

This Act provides the Central Government with the power to enact rules regulating environmental pollution which takes into its ambit the regulations relating to noise pollution. Section 6 of the Act empowers the government to enact laws for “the maximum allowable limits of concentration of various environmental pollutants (including noise) pollution in different areas.”

Thus, the government under this Act can lay down rules relating to the maximum allowable limits of noise pollution in the environment and any violations in this permissible limit would invite penalties. Entry 89 of this Act also provides for a maximum limit on the noise level generated by firecrackers and prohibits the manufacture of firecrackers in factories beyond the permissible limit. The limit has been set at 125 db(A) or 145 db(C) at 4 meters distance from the point of bursting.

Noise Pollution (Regulation and Control) Rules 2000

The reasoning behind the enactment of these rules was that the noise emitted by loudspeakers, vehicular horns, construction activities, music systems, industries, and other mechanical equipment have an adverse impact on the physical and physiological growth of human beings. These rules were formulated in order to curb the menace of excessive noise pollution from these sources to create an ambient atmosphere for healthy living.

The noise pollution rules prohibit the use of loudspeakers at night and provide provisions for penalties in case permission for the use of such devices is not sought from a competent authority. However, these rules have proven to be inadequate and lack implementation despite the Supreme Court’s repeated reminders.

Police Act, 1861

The Police Act of 1861 provides immense powers to the Superintendent of Police and his subordinates regarding the regulation of noise on the occasion of ceremonies, processions, festivals, marches, etc. Section 30A of the Act vests in the police the power to disperse off the crowd in case of excessive noise pollution during these occasions. This is also seen as one of the drawbacks of the act. Also, the act is silent on the question of noise pollution emitted by various activities under private premises.

Air (prevention and control of pollution) Act, 1981

This Act was originally enacted to regulate the excessive amount of pollutants in the air causing air pollution but it was only after the Amendment Act of 1987 that noise pollution was covered within the definition of air pollutants. Section 16(2)(6) of the Act empowered the Central Pollution Control Board to formulate a nationwide plan to prevent, combat and control air pollution. But after the amendment to the act, the State Pollution Control Board was also given the power to formulate plans on the regulation of noise pollution in the state.

Bihar Control of the Use and Play of Loudspeakers Act, 1955

Section 3 of the Act provides for the restriction in the use of loudspeakers. It prohibits the use of loudspeakers within a distance that may be prescribed from any hospital or any educational institution. Section 6 provides that adequate action could be taken against such acts if the complaint is made by the aggrieved person or on the written report made by the police officer.

Religion vs. noise pollution

The recent controversy

The controversy relating to a conflict of interests between religion and regulations prohibiting noise pollution sparked with the recent order of the Madhya Pradesh government. They have announced a ban on the use of loudspeakers and DJs at Indore's famous Ranjeet Hanuman temple from 10 pm to 6 am. This invited allegations on the decision by various religious organizations. They have alleged that the state government has banned the use of loudspeakers in only Hindu temples and hence the decision is arbitrary. They also contended that the decision was against their freedom of religion enshrined in the article of the constitution. The sub-divisional magistrate in his defense said that they were merely working on the orders of the Supreme Court in furtherance of the complaint made by people who were experiencing disturbance over the use of loudspeakers in the temple.

The previous judgments

In *India v. K.K.R. Majestic Colony Welfare Assn case*, the court held that it has all the powers to regulate noise pollution in the environment and can also issue guidelines regarding the same, even if the noise was a result of religious activities. The court also held that the decision to prohibit the use of loudspeakers was not against the right to religion. Although, offering prayers comes under the right to religion but using loudspeakers and other such devices for offering prayers is not covered under the right to religion. Any activity that causes disturbance in the society and becomes an obstacle to the peaceful existence of human beings cannot be permitted. The court contended that the use of loudspeakers disturbed children and old people during their sleep hours and hence its use is prohibited.

Reforms

Reforms in the existing statutes

Ever since the advent of industrialization and urbanization in the country, the issue of noise pollution took a backstage and the legislators did not pay adequate attention to this issue. It is due to this that the present constitutional and legislative provisions are inadequate to prohibit the limits of noise pollution in the surroundings. Presently, there is no exclusive legislation to curb the menace of noise pollution in the country. The remedies provided under other acts are not enough to deter people to avoid spreading noise pollution.

The acts that are already in force such as the Aircraft Act and the Environmental Protection Act are not extensively enacted for noise control but are mere residuary legislations. Some other provisions which are exclusively enacted for the purpose of noise control such as the Noise Pollution Rules, 2000 lack implementation. The rules have partial coverage in the sense that they

only prohibit the use of loudspeakers and are silent on other sources of noise pollution. They lack provisions for public awareness leading to non-cooperation by the general public on the issue.

The provisions under the tort law provide for two remedies: they either provide an injunction or an award of damages. The basic principle behind both these remedies is providing compensation and the issue of community noise pollution continues to exist. Even the remedies available under criminal law do not establish any preventive mechanism but are nominally punitive.

Other reforms

1. In order to formulate a rigid plan and ensure proper distribution of responsibility, it is important that the relationship between the central and state governments is outlined. Minimum environmental standards need to be laid down by the collective effort of both the governments in order to resolve the conflicts of jurisdictions that may arise in the future. The formation of a national council in order to look into the functioning of the government and how their activities are proving to be instrumental in curbing noise pollution is inevitable. The formation of various expert committees to look into the technicalities is also of primary importance.
2. Before formulating policies regarding noise control, it is important that the policy makers take cognizance of the technological advancements taking place around the world. This is because these are the result of the country's adoption of western technology ignoring the subsequent damages it causes. It is only after the careful study of the new scientific discoveries that minimum standards for noise control need to be laid down. Because one of the reasons for the failure of the previous singular legislations was they had become obsolete and could not solve modern problems. A similar approach needs to be followed by the National Council while granting licenses to industries and in its day-to-day formulation of policies.
3. Increased incentives should be provided to factory owners and farmers to encourage the use of quiet technology since industrial equipment and machinery are the major contributors to noise pollution. In order to provide incentives, it is important that successful collaboration between the central and state governments is undertaken.
4. At last, the most important part of formulating legislation is the public reasoning. Public consultations should be done while fixing minimum standards for noise pollution. The most important task of legislation i.e. the implementation is also incomplete without the support of the citizens. The laws should be formulated keeping in mind public welfare so that their proper implementation is ensured.

Ozone Depleting Substances Rules 2014

Ozone Depleting Substances (Regulation) Rules, 2000 were published, under the notification of the Government of India in the Ministry of Environment and Forests number S.O. 69(E), dated, the 25th January, 2000, in the Gazette of India, Extra-ordinary, Part II, section 3, sub-section(ii) at pages 39-96 on the same date, inviting objections and suggestions from all persons likely to be affected there by, before the expiry of the period of forty-five days from the date on which the copies of the Gazette containing the said notification are made available to the public;

And whereas copies of the said Gazette were made available to the public on 26.01.2000;

And whereas the objections and suggestions received from the public in respect of the said draft rules have been duly considered by the Central Government;

Now, therefore, in exercise of the powers conferred by sections 6, 8 and 25 of the Environment (Protection) Act, 1986, the Central Government hereby makes the following rules for regulating ozone depleting substances, namely:-

1. Short title and commencement.-

(1) These rules may be called the Ozone Depleting Substances (Regulation and Control) Rules, 2000.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. Definitions .- In these rules unless the context otherwise requires,-

(a) "Act" means the Environment (Protection) Act, 1986 (29 of 1986);

(b) "authority" means an authority mentioned in columns (4) and (6) of Schedule V;

(c) "base level" means the quantity of ozone depleting substance produced or consumed, as the case may be, in the year or average of the years listed in column (3) of Schedule II and Schedule III;

(d) "consumption" with respect to any ozone depleting substance means the amount of that substance produced in India in addition to the amount imported, less the amount exported;

(e) "calculated level of production, sale, import or export", as the case may be, means level determined by multiplying quantity of the ozone depleting substance by its ozone depleting potential specified in column (5) of Schedule I;

(f) "calculated level of consumption" shall be determined by adding together calculated levels of production and imports and subtracting calculated level of exports;

(g) "Group" means collection of one or more ozone depleting substances as specified in column (4) of Schedule I;

(h) "manufacture" in relation to any ozone depleting substance includes-

(i) any process or part of a process for making, altering, finishing, packing, labeling, blending or otherwise treating or any ozone depleting substance with a view to sell, distribute or use but does not include the repacking or breaking up of any ozone depleting substance in the ordinary course of retail business; and

(ii) any process in which a preparation containing ozone depleting substance is formulated;

(i) "ozone depleting substance" means the ozone depleting substances specified in column (2) of Schedule I, whether existing by itself or in a mixture, excluding any such substance or mixture (blend) which is in a manufactured product other than a container used for the transportation or storage of such substance;

a. "parties" means, unless the text otherwise indicates, parties to the protocol;

(k) "pre-shipment applications" are those treatments applied directly preceding and in relation to export, to meet the phytosanitary or sanitary requirements of the importing country or existing phytosanitary or sanitary requirements of the exporting country;

a. "production" in relation to any ozone depleting substance means the manufacture of an

ozone depleting substance from any raw material or feedstock chemicals, but does not include-

(i) The manufacture of a substance that is used and entirely consumed (except for trace quantity) in the manufacture of other chemicals; or

(ii) Quantities which are produced incidentally in the manufacture of other chemical substances; or

(iii) Quantities which are recycled or reused; or

(iv) Quantities which are destroyed by technologies to be specified by the Central Government;

(m) "Protocol" means the Montreal Protocol on Substances That Deplete the Ozone Layer, adopted on 16th September 1987;

(n)"quarantine applications", with respect to Group VIII of Schedule I ozone depleting substance, are treatments to prevent the introduction, establishment and or spread of quarantine pests (including diseases), or to ensure their control as specified by the Central Government;

(o)"recovery" means collection and storage of ozone depleting substances from machinery, equipment, or containment vessel during servicing or prior to disposal;

(p) "Reclamation" means reprocessing and upgrading of a recovered ozone depleting substance through such methods as filtering, drying, distillation and, or chemical treatment in order to restore the substance to a specified standard of performance.

(q)"schedule" means a schedule annexed to these rules.

3.Regulation of production and consumption of ozone depleting substances.-

(1) No person shall produce or cause to produce any ozone depleting substance after the date specified in column (5) of Schedule V unless he is registered with the authority specified in column (4) of that Schedule :

Provided that for the twelve month period commencing on the date specified in column (6) of Schedule II, and in each twelve month period thereafter, no person shall produce or cause to be produced any group of ozone depleting substances in excess of the corresponding percentage of his calculated base level of production specified in column (4) of that Schedule:

Provided further that calculated level of consumption of such substances in India shall, as a percentage of calculated level of consumption in base years does not exceed the number specified in column (5) of Schedule II.

(2)No person shall produce or cause to produce ozone depleting substances specified as Group I and Group III in column (4) of Schedule I during the period from 1, August, 2000 to 1st January, 2010 in excess of the quantity specified in column (4) of Schedule III and the calculated level of consumption of such substances in India shall as a percentage of calculated level of consumption in base year does not exceed the number

specified in column (5) of that Schedule.

(3) A person having received financial assistance from the Multilateral Fund in accordance with article 10 and 10 A of the protocol to which the Central Government is a party for gradual reduction of production of ozone depleting substances specified as Group I and Group III in column (4) of Schedule I shall, limit the production of ozone depleting substances as specified in Group I and Group III in column (4) of Schedule I in each year from 1st August, 2000 to January 1, 2010 to quantities specified in column (4) for each year given in column (6) of Schedule III as per the agreement approved, by the Executive Committee of the Multilateral Fund.

(4) In order to implement the agreement, referred to in sub-rule (3), the Central Government shall introduce implementation modalities, such as, quota system for producing Chlorofluorocarbons and the non-compliance with such modalities shall result in consequential penalties laid out in the agreement.

4. Prohibition on export to or import from countries not specified in Schedule VI.- No person shall import or cause to import from or export or cause to export to any country not specified in Schedule VI any ozone depleting substance after the commencement of these rules.

5. Ozone depleting substances are to be exported to or imported from countries specified in Schedule VI under a license.-

(1) No person shall import or cause to import from or export or cause to export to, any country specified in Schedule VI, any ozone depleting substance unless he obtains a license issued by the authority.

(2) No license shall be issued under sub-rule (1) unless the said authority is satisfied that the grant of license shall not cause calculated level of consumption of that group of ozone depleting substances (except Group I and Group III given in column (4) of schedule I in the relevant twelve month period, as a percentage of corresponding calculated consumption in base years, to exceed the number specified in column (5) of Schedule II.

(3) No license shall be issued under sub rule (1) unless the said authority is satisfied that the grant of license shall not cause calculated level of consumption of ozone depleting substance given in Group I and III in column (4) of Schedule I in the relevant twelve months period as specified in column (6) of Schedule III, as a percentage of calculated consumption in base years to exceed the number specified in column (5) of that Schedule.

(4) The calculated base level of consumption and the calculated base level of production for India as a whole for each group of ozone depleting substances shall be notified by the Central Government.

6. Regulation of the sale of ozone depleting substances.-

(1) No person shall either himself or by any other person on his behalf or enterprise sell, stock or exhibit for sale or distribute any ozone depleting substance after the date specified in column (5) of Schedule V unless he is registered with the authority specified in column (4) of that Schedule

Provided that no person or enterprise shall sell ozone depleting substances specified in column (3) of Schedule IV for activities specified in column (2) of that Schedule unless the person engaged in that activity has got himself registered with the authority and has given a declaration in accordance with these rules and the person

selling ozone depleting substances has verified particulars of the registration given in the declaration with the certificate of registration as per procedure specified in Part II of Schedule XII :

Provided further that after the date specified in column (4) of Schedule IV, no person or enterprise shall sell, stock, distribute or exhibit or cause to be sold, stocked, distributed or exhibited ozone depleting substances specified in column (3) for activities specified in column (2) of that Schedule.

(2) No person shall either himself or by any person on his behalf, or enterprise sell, stock or exhibit for sale or distribute any ozone depleting substance to any person or enterprise who has informed the Central Government that he or that enterprise shall not use the specified ozone depleting substances in manufacturing or other activities after the date specified by such person or as the case may be, the enterprise.

(3) The Central Government shall notify the list of persons, ozone depleting substances and dates informed to it under sub-rule (2).

7.Regulation on the purchase of ozone depleting substances.- No person shall either himself or by any person on his behalf or enterprise, purchase ozone depleting substances specified in column (3) of Schedule IV from any person for making stock or for using such ozone depleting substances for activities specified in column (2) of that Schedule unless he has given the declaration specified in Part I of Schedule XII to the seller of such substances within the time period specified in Serial number 4 of column (5) of Schedule V.

8. Regulation on the use of ozone depleting substance.-

(1) No person or enterprise shall engage in any activity specified in column (2) of Schedule IV that uses ozone depleting substances specified in column (3) of that Schedule after the date specified in column (5) of Schedule V unless he is registered with the authority specified in column (4) of that Schedule.

(2) No person shall engage in any activity specified in column (2) of Schedule IV using ozone depleting substances specified in column (3) of that Schedule after the date specified in column (5) of Schedule V unless the products are labeled to indicate the ozone depleting substance they contain.

(3) No person shall engage in any activity specified in column (2) of Schedule IV using ozone depleting substances specified in column (3) after the date specified in column (4) of that Schedule

(4) No person shall engage in any activity specified in column (2) of Schedule IV without using label indicating absence of use of ozone depleting substance mentioned in column (3) after the date specified in column (4) of that Schedule.

(5) A person, having received financial and technical assistance from the Multilateral Fund in accordance with the Article 10 and 10 A of the Montreal Protocol On Substances That Deplete The Ozone Layer, to which the Central Government is a Party for phasing out of ozone depleting substances specified in column (2) of Schedule II used in activities specified in column (2) of Schedule IV, either himself or by any person on his behalf or through any enterprise, shall not engage in such activity as specified in column (2) of Schedule IV using ozone depleting substances specified in column (3) of the Schedule, after the date of completion of the conversion work or signing of the Handing Over

Protocol, or the submission of the completion report to change from ozone depleting substance technology to non ozone depleting substance technology and the said date be registered with the authority specified in column (4) of the Schedule V.

(6) Any person or enterprise having received, financial assistance from the Multilateral Fund in accordance with the Article 10 and 10 A of the Montreal Protocol On Substances That Deplete The Ozone Layer shall submit an affidavit or declaration with the authority specified in column (4) of Schedule V stating that replaced equipment, resulted from completion of conversion process from ozone depleting substance technology to non ozone depleting substance technology, have been destroyed, dismantled, rendered unusable and that no ozone depleting substance should be used after the date of the completion of project and the said date be registered with the authority specified in the column (4) of the Schedule V

9. Prohibition on new investments with ozone depleting substances.- (1) No person shall establish or expand or cause to establish or expand any manufacturing facility for production of any ozone depleting substance after the date specified in column (7) of Schedule II and III.

(2) No person shall establish or expand or cause to establish or expand any manufacturing facility, with a view to manufacturing products which contain, or are made with, any ozone depleting substance after the date specified in column (8) of Schedule II & III.

(3) A person having received financial and technical assistance from the Multilateral Fund in accordance with the Article 10 and 10A of the Montreal Protocol On Substances That Deplete The Ozone Layer for phasing out of ozone depleting substances specified in column (2) of Schedule II used in activities specified in column (2) of Schedule IV to which the Central Government is a Party, shall not establish or expand or cause to establish or expand the manufacturing facility for production of any ozone depleting substance or with a view to manufacturing products which contain or are made with any ozone depleting substances after the approval of the project for conversion and date of completion of the conversion work from the ozone depleting substance technology to non ozone depleting substance technology.

10. Regulation of import, export and sale of products made with or containing ozone depleting substances.-

(1) No person shall import or cause to import any product specified in column (2) of Schedule VII which are made with or contain ozone depleting substances specified in column (3) after the date specified in column (4) of that Schedule unless he obtains a license issued by the authority:

Provided that such products which do not contain such ozone depleting substances shall carry a label to that effect before its import is allowed after the date specified in Column 4 of Schedule VII.

(2) No person or enterprise shall export or cause to export any product specified in column (2) of Schedule VII unless such product carries a label specifying whether or not the product has been made with or contains, as the case may be, ozone depleting substances specified in column (3) of that Schedule, after the date specified in column (5) of that Schedule.

(3) No person shall either himself or by any other person or enterprise on his behalf sell, stock or exhibit for sale or distribute any product resulting out of activities, or provide services, specified in column (2) of Schedule IV using ozone depleting substances specified in column (3) after the date specified in column (4) of that Schedule.

11.Regulation on reclamation and destruction of ozone depleting substances.- (1) No person shall reclaim or cause to reclaim any ozone depleting substance after the date specified in column (5) of Schedule V unless he has registered with the authority specified in column (4) of that Schedule.

(2) No person shall destroy or cause to destroy any ozone depleting substance after the date specified in column (5) of Schedule V unless he has registered with the authority specified in column (4) of that Schedule.

12.Regulation on manufacture, import and export of compressors.- (1) No person shall manufacture, import or export compressors after the date specified in column (5) of Schedule V unless he is registered with the authority specified in column (4) of that Schedule.

13.Procedure for registration, cancellation of registration and appeal against such orders.-

(1) The procedure for registration and conditions of registration under various provisions of these rules shall be as specified in Schedule IX.

(2) The registering authority shall not register if he is not satisfied that the procedure for registration or conditions of registration are fulfilled.

(3) The registering authority shall cancel the registration if he is satisfied that condition(s) of registration have been violated.

(4) The registering authority shall give the concerned person an opportunity of being heard before passing orders under sub-rules (2) and (3) and the orders shall be made in writing.

(5) An appeal against an order of the registering authority shall lie with the authority specified in column (6) of Schedule V within thirty days of communication of such order.

(6) The registration shall be valid for the period specified in Schedule IX and its renewal shall be necessary.

(7) The procedure for and conditions of renewal of registration shall be the same as applicable to registration.

14.Monitoring and reporting requirements.-

(1) Every person who produces, imports, exports or sells any ozone depleting substance shall maintain records and file reports in the manner specified in Part I of Schedule X.

(2) Every person stocking or purchasing any ozone depleting substance for use in activities specified in column (2) of Schedule IV shall maintain records and file reports in the manner specified in Part II of Schedule X.

(3) Every person who has received technical or financial assistance from any

international organisation or any financial assistance, which includes concession or exemption from payment of duties, from the Central Government, shall maintain records and file reports in the manner specified in Part III of Schedule X and the list of such persons shall be notified by the Central Government.

(4) Every person who has facility to reclaim an ozone depleting substance shall maintain records and file reports in the manner specified in Part IV of Schedule X.

(5) Every person who has facility to destroy any ozone depleting substance shall maintain records and file reports in the manner specified in Part V of Schedule X.

(6) Every person who manufactures, imports, exports or sells compressors shall maintain records and file reports in the manner specified in Part VI of Schedule X.

(7) The records maintained in accordance with the above sub-rules shall be made available for inspection as specified in Part VII of Schedule X.

15.Exemption.- (1) Nothing contained in these rules shall apply to applications or circumstances specified in Schedule VIII.

Solid Waste Management Rules 2016

The Municipal Solid Waste (Management and Handling) Rules, 2000 were notified in the year 2000 and came into force on September 25, 2000. However, post the suggestions of the public, the set of rules were updated in the areas of plastic, e-waste, biomedical, hazardous and construction and demolition waste management rules. Later the Government notified Solid Waste Management Rules, 2016 in the year 2016.

The new set of rules are now not only applicable in Municipal Areas but have also included urban agglomerations, census towns, notified industrial townships, and also areas which fall under the control and direction of Indian Railways, Airports, Special economic zones, Places of Pilgrimage, Religious and Historical importance, and Organisations under the conduct of State and Central Government.

Waste and its management

The Municipal Solid Waste comprises household waste, Commercial and Institutional waste, Marketing and Catering waste, Street sweepings and silt from Drains, Horticulture and dairy waste, Slaughterhouse waste, and Treated Biomedical Waste. (The Construction and Demolition waste is no longer a part of municipal solid waste. Construction and Demolition Waste Management Rules 2016, Plastic Waste Management Rules 2016, E-Waste Management Rules 2016, Biomedical Waste Management Rules 2016, and Hazardous and Other Waste Management Rules, 2016 are separately notified). It may be further categorised through three ways-

- Emergence
- Contents
- Hazard potential

Solid Waste Management reduces or eliminates its hostile impact on the environment & human health. It's poor management causes Air pollution, Water and Soil contamination. This is the reason why a municipality includes a number of processes for effective waste management i.e. monitoring, collection, transport, processing, recycling and disposal of waste. The amount of waste generated in the area depends on various factors like different lifestyles of the people. However, the two overwhelming challenges facing urban local governments in putting an effective solid waste management system in place are:

- Environmental sustainability, and
- Financial sustainability.

Solid Waste Management Rules, 2016

Important Terms

1. "Biodegradable waste" – means any organic material that can be degraded into simpler stable compounds by microorganisms.
2. "Bio-methanation" – means a process which involves the organic matter to go under enzymatic decomposition by microbial action to produce methane.
3. "Combustible waste" – means a composition of non-biodegradable, non-recyclable, non-hazardous solid waste with a high calorific value of over 1500 kcal/kg, except plastic chlorinated materials and wood pulp, etc.
4. "Composting" – means a scientific process involving microbial decomposition of organic matter.
5. "Disposal" – means the disposal of post-processed residual solid waste and collected street sweepings and silt from the surface of drains to prevent contamination of groundwater, unpleasant odour and attraction of stray animals or birds.
6. "Domestic Hazardous waste" – means the remaining household products which given under certain circumstances can catch fire, react or explode, or are corrosive or toxic in nature.
7. "Inerts" – means wastes which are not biodegradable, recyclable or combustible in nature like dust and silt removed from the surface drains or street sweeping.
8. "Leachate" – means the solvent that trickles from the solid waste medium and has absorbed or contains dissolved products.
9. "Material recovery facility" – means a facility in which non-compostable solid waste may be deposited temporarily by a municipal agency in order to facilitate the aggregation, storage, and recycling, through waste recyclers, or by some other local body prior to collection of waste for its processing or disposal.
10. "Non-biodegradable waste" – means any waste which can not be converted to simpler stable compounds by microorganisms.
11. "Recycling" – means a process of collecting and processing by which one can transform their old goods or the solid waste into a new product for use or raw material for the building of other goods or products.
12. "Refuse derived fuel" – means fuel generated from fractions of solid waste such as plastic, wood, pulp or organic waste, rather than chlorinated products, in the form of pellets or fluff formed by drying, shredding, dehydrating and compacting solid waste.
13. "Sanitary landfilling" – means that the safe and final disposal of the residual solid and inert wastes on land in a facility which is specially built with protective measures against contamination of groundwater, surface water and dust, wind-blown litter etc.
14. "Segregation" – means the collection and separate handling of different components of solid biodegradable waste, including agricultural and dairy waste; non-biodegradable waste, including recyclable waste, non-recyclable fuel waste, sanitary waste and non-recyclable toxic waste, household hazardous waste, and building and demolition waste.
15. "Solid waste" – means and involves solid or semi-solid waste, sanitary waste, industrial waste, administrative waste, hospitality and agricultural waste and other non-residential pollutants, street sweepings, surface water sludge, greenhouse waste, farm and livestock waste, municipal hazardous waste and other bodies.
16. "Vermicomposting" – means the process of conversion from with compost is obtained by earthworms out of biodegradable waste.

17. "Waste Generator" – means and includes all persons or groups, on residential and non-residential premises, including Indian Railways, defence facilities which produce solid waste.
18. "Waste Hierarchy" – means the priority order of management of solid waste by emphasizing prevention, reduction, reusability, recycling, recycling and waste disposal, prevention as the preferred choice, and its disposal at the landfills as the least possible.
19. "Waste Picker" – means an individual or groups informally engaged in the recovery of recycled and recyclable solid waste from waste streams, street bins, recycling facilities and recycling facilities for recyclers to gain their livelihood directly or by an intermediary.

Duties of Waste Generators

1. Each waste generator shall separate the waste that is generated and store it in three different parts which are biodegradable, non-biodegradable and household hazardous waste and store it differently. Subsequently, the collected waste shall be passed to the approved rag pickers or collectors.
2. The sanitary waste used, for example, diapers, sanitary pads etc., shall be securely wrapped in pouches provided or in a suitable wrapping material by the manufacturers of these items and placed in the bins intended for dry or non-biodegradable wastes.
3. Construction and demolition waste shall be treated separately and disposed of according to the Waste Management Rules 2016 for Building and Demolition.
4. The waste generated from the premises through horticulture or garden shall be stored separately and be disposed of as per the Rules.
5. The practice of burying, burning or throwing the solid waste generated by the individual in open public areas, on streets, drains or water bodies shall be stopped immediately.
6. As per the laws of the local authorities, the waste generators shall pay a fee for solid waste management.
7. Under no circumstances until the permission given by the local authority no event or gathering of more than 100 people shall be made at any unlicensed place and a permit should be taken at least three working days prior to the event. The segregation of the waste and handling of it over to the waste collector shall be monitored by the organiser.
8. Storage containers shall be kept by all the street vendors for keeping the waste generated such as food waste, disposable plates, cups, cans, wrappers, coconut shells, leftover food, vegetables, fruits etc. and shall be disposed of properly.

Duties of Ministry of Urban Development

National Policies and Strategies on Solid Waste Management including the policies on Waste to Energy shall be made. Promotion of research and development, technical guidelines and project finance shall be and reviewal of the measures taken by the States shall be done by the ministry.

Duties of Department of Fertilisers, Ministry of Chemicals and Fertilizers

The Ministry shall provide market development assistance on the city compost and promote co-marketing of compost with chemical fertilizers bags by the fertilizer companies.

Duties of Ministry of Agriculture, Government of India

The Ministry shall provide leniency in the Fertilizer Control Order for the production and sale of compost and shall promote its use of compost on agricultural land. They shall set up laboratories for testing the quality of compost produced by local authorities.

Duties of the Ministry of Power

The Ministry shall decide the charge of energy generated from waste to energy plants from the solid waste and ensure the mandatory purchase of energy generated from such waste to energy plants by DISCOMs.

Duties of Ministry of New and Renewable Energy Sources

The Ministry of New Renewable Energy Sources shall facilitate the creation of infrastructure for waste to energy plants and provide necessary incentives for such energy plants.

Duties of the Secretary-in-charge, Urban Development in the States and Union Territories and of Village Panchayats or Rural Development Department in the State and Union Territory

1. All of them shall come together within a year to frame a state policy on solid waste management.
2. They shall make a plan to identify and allocate suitable land for setting up the processing and disposal facilities for solid wastes within one year and start incorporating them.
3. Separate areas shall be reserved for segregation, storage and decentralized treatment of solid waste as specified in the development plan for group housing or industrial, institutional or any other non-residential complex of more than 200 dwellings or having a plot area of more than 5,000 square metres.
4. They shall ensure that the developers of the Special Economic Zone, Industrial Estate, Industrial Park have at least 5 percent of the total area of the plot or at least 5 plots/holes for recovery and recycling facilities.
5. Notifications shall be given to the buffer zone for solid waste treatment and disposal facilities of more than 5 tons per day in consultation with the State Pollution Control Board and a framework for the registration of waste pickers and waste dealers shall be created.

Duties of the Central Pollution Control Board

1. The coordination between the Central Pollution Control Board and the State Pollution Control Boards shall be maintained for the enactment of these rules and adherence to the standards prescribed by the ground authorities. Also, the formulation and review of the standards for groundwater, air, noise pollution, in respect of all solid waste processing and disposal facilities shall be done.
2. The proposals given by the state pollution control boards or pollution control committees on the use of any new technologies for processing, recycling and treatment of solid waste shall be reviewed.
3. Preparation of an Annual Report on the enactment of these rules and submission of it to the Ministry of Environment, Forest and Climate Change shall be done and the report shall also be put in the public domain.
4. Publish guidelines for the management of buffer zones that exclude any residential, industrial or other building operation from the outer boundary of waste treatment and disposal facilities for various facilities handling more than 5 tons of solid waste each day.
5. The publication of guidelines on the environmental aspects of the treatment and disposal of solid waste shall take place from time to time in order to enable local authorities to abide by the terms of the law and to provide assistance to States or Union Territories on the interstate movement of waste.

Duties and Responsibilities of local authorities and village Panchayats of census towns and urban agglomerations

1. Within six months, local authorities must draw up a comprehensive waste management strategy according to State policy.
2. Collection of segregated waste from door to door shall be arranged.
3. Within one year a user fee shall be prescribed to the waste generators and appropriate by laws for incorporating these rules shall also be created.
4. Guide waste generators to not dispense and separate waste at source and pass on separated waste to approved waste recyclers from the local authorities.

5. Create material recovery plants or secondary storage plants and provide easy access for the collection of recycled waste to waste pickers and recyclers.
6. Establish safe waste storage and transportation facilities for household hazardous waste to the hazardous wastes disposal facility.
7. Instruct road sweepers not to burn tree leaves gathered from street debris and store them individually and later, pass them to the waste collectors or to the local authority appointed agent.
8. Train waste collectors and waste collectors in solid waste management.
9. Promote the establishments in suitable locations on the markets, or near the markets, for decentralized compost plant or biomethanation plant, ensuring sanitary conditions.
10. Collect waste separately, depending on the populations, businesses, and locations, by streets, paths and by-lanes daily or in alternative days or twice a week.
11. Collect horticulture, gardening and parks waste separately and process as much as possible in parks and gardens itself.
12. Transportation of separated bio-degradable waste to processing plants such as compost, bio-methane plant, or any other facility shall be done.
13. Non-bio-degradable waste should be transported to their respective processing facilities or material recycling (MRF) or secondary storage facilities.
14. According to the provisions present in the Construction and Demolition Waste Management Rules, 2016, the transportation of the waste generated at these sites shall be made.
15. Initiate community involvement in waste management and promotion of domestic composting, biogas production, decentralized waste processing at the community level subject to odour management and maintenance of sanitary conditions in the facility.
16. Phasing out of chemical fertilizer and using compost in all parks and gardens maintained by the local authorities and, where possible, elsewhere within the jurisdiction of the local authority, over the next two years. The informal waste recycling sector can provide incentives for recycling initiatives.
17. Facilitate constructing, operating and maintaining waste processing facilities such as bio-methanation, microbial composting, vermicomposting, anaerobic digestion or any other appropriate bio-stabilization method for bio-degradable waste; waste for energy processes like waste fuel for fuel fraction of waste or for feedstock to the solid waste-based power plant.
18. If the volume of waste reaches 5 metric tons per day, a proposal should be made for authorization to create a waste collection, processing and disposal facility.
19. Prepare and forward the annual report to the Commissioner, Controller, Municipal Administration or Appointed Officer by 30 April of the following year and send it to the Secretary, Chair of the Department for State Urban Development or Village Panchayat or the Department for Country Development or the respective State Pollution Control Board or Pollution Control Committee on 31 May of the following year.
20. Contractors and door to door collection supervisors shall be directed to collect and transport non-mixed waste to processing or disposal sites, during primary and secondary transport.
21. The plant operator shall ensure that the facility provides personal safeguard equipment to all employees who handle solid waste, including uniform, fluorescent jackets, hand gloves, raincoats, suitable footwear and masks.
22. Ensure that guidelines are included in the building plan for creating centres to receive, segregate and store separated wastes when providing for building plans for the housing population or complex business group.
23. Identify bye-laws and administer spot fine requirements for persons who litter or refuse to comply, and delegate powers to officers and local authorities to levy spot fines under

the by-laws specified. Stop the deposition or disposal of mixed waste immediately following the schedule stated in Rule 23 for the establishment and operation of sanitary waste.

24. Enable the inert and pre-processed refuse and waste from manufacturing facilities to be moved to sanitary sites including non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive materials.
25. Investigate and analyze all old open dumpsites and existing operational dumpsites for their potential of bio-mining and bio-remediation and wherever feasible, take necessary actions to bio-mine or bio-remediate the sites.
26. In absence of the potential of bio-mining and bio-remediation of the dumpsite, it shall be scientifically capped as per landfill capping norms to prevent further damage to the environment.

Duties of District Magistrate or District Collector or Deputy Commissioner according to Solid Waste Management Rules, 2016

At least once in a quarter, the District Officer or District Collector or Deputy Commissioner shall make it possible to identify and allocate appropriate land for the construction and disposal of solid waste, and to review the performance of local authorities.

Duties of the State Pollution Control Board or Pollution Control Committee according to the Solid Waste Management Rules, 2016

These laws shall be imposed in their respective states by the State Pollution Control Boards or the Commissions. The environmental quality shall be monitored by the commission and the request to grant authorization shall be considered; inter-state waste movement should be taken under control.

Duty of manufacturers or Brand owners of disposable products and sanitary napkins and diapers according to the Solid Waste Management Rules, 2016

1. The implementation of this waste management scheme shall be sponsored by all producers of disposable goods, such as tin, glass, plastics, packaging, etc. or the brand owners, who bring these items into the market.
2. All brand owners who are selling or distributing their goods in non-biodegradable packaging material must develop a system for recovering the packaging waste generated by their production.
3. Manufacturers or brand owners or companies that sell sanitary napkins or diapers shall explore the possibility to manufacture their products by using all recyclable materials or have a pouch for disposal, along with the packet of their sanitary items, of any fabric or fabric for each dress.
4. Education to the masses shall be given for the wrapping and disposal of their products by all the brand owners, companies or manufacturers.

Duties of the industrial units located within one hundred km from the RDF and Waste to Energy plants based on solid waste according to Solid Waste Management Rules, 2016

All fuel-using industrial plants located within 100 kilometres of an RDF solid waste plant must arrange for the replacement of at least 5 percent of its fuel requirement by RDF so provided within six months of the notification of those laws.

Criteria for setting up solid waste processing and treatment facilities.

1. The land allocation department must provide appropriate land for the construction of the processing and treatment plants for solid waste.

2. The facility operator shall obtain appropriate authorization and shall be responsible for the safe and environmentally friendly operations and/or process of solid waste in the facilities by the State Pollution Control Board or Pollution Control Committee.
3. An annual report shall be submitted to the State Pollution Control Board and Local Authority by 30th April by the operator of the solid waste collection and treatment facility.

Criteria and actions to be taken for solid waste management in hilly areas

1. Construction of landfill on the hill shall be avoided. A transfer station at a suitable enclosed location shall be set up to collect residual waste from the processing facility and inert waste. A suitable land shall be identified in the plain areas down the hill within 25 kilometres for setting up sanitary landfill. The residual waste from the transfer station shall be disposed of at this sanitary landfill.
2. Efforts shall be made to establish the regional sanitary wasteland for inert and residual waste in case of non-availability of such land.

Criteria for waste to energy process

1. Non-recyclable waste of 1500 kg/cal/kg or longer shall not be disposed of in dumps and only used as a feedstock for the preparation of waste-driven fuel, either by refuse-derived fuel, or by refuse-disposing it.
2. High calorific wastes shall be used for co-processing in cement or thermal power plants.

State Level Advisory Body

Within 6 months of the notification date of these laws, each of the departments in charge of the local bodies of the concerned State Government or Union Territory Administration shall constitute the State Level Advisory Body.

Time frame for implementation

The local authorities and other concerned authorities, as applicable, shall set up on their own initiative or by engaging agencies within the time limits laid down in the Rules the necessary infrastructure to enforce these regulations.

Create a solid waste disposal facility for all local authorities with 100,000 or more inhabitants within two years, create local authorities and census towns with a population of less than 1000, develop common or autonomous health sites by or for all local authorities with a population of 0.5 million or more, and set up a common or national sanity site for all local authorities and census towns with less than 0.5 million people.

Specifications for Sanitary Landfills

The regulations provide for site selection requirements, site development, landfill site development and site closure design, site closure, contamination control, old dump closure and restoration, and define the conditions for special provisions for hillock areas.

The rules also specify Standards of processing and treatment of solid waste, composting, treated leachates, incineration.

Monitoring

Overall oversight of the country's enforcement of these rules shall be conducted by the Ministry of the Environment, Forest and Climate Change. It shall constitute a Center for Monitoring, chaired by the Minister of Environment, Forest and Climate Change and comprising the Ministry of Urban Development, the Ministry of Rural Development, the Ministry of Climate Development, the Ministry of Agriculture, the Central Pollution Control Board and the Three-State Pollution Control

Boards/ Pollution Control Boards and the urban planning and management boards, three Urban Local Bodies, Two census towns, FICCI, CII and Two subject experts.

This Committee shall meet at least once a year to track and review the compliance of the laws. If required, the Ministry can collaborate with other experts. Every three years, the Committee shall be renewed.

Important Provisions updated in the Solid Waste Management Rules, 2016

Segregation at source

The new rules include the segregation of the waste stream to collect, reuse and recycle waste. Waste generators will now need, before the waste being passed on to the collector, to sort waste into three fluxes-biodegradable, dry material (plastics, paper, metalworking, wood etc.) and domestically hazardous waste (diaper, serviettes, mosquito repellents, cleaning agents, etc.).

Institutional generators, business groups, event managers and hotels and restaurants were primarily responsible for the segregation and waste collection and control of waste in cooperation with local authorities. In the occurrence of an event or gathering in a place licensed/non-licensed of more than 100 people, the organizer shall guarantee the segregation of waste at the source and the distribution of separated waste, as stipulated by the local authority, to the waste collector or organization.

Collection and disposal of sanitary waste

The waste generators shall dispose of the waste of sanitary napkins generated in a pouch or wrapper for proper disposal which shall be provided by the manufacturer or the brand owner with the sanitary product as it is their responsibility.

Collect Back scheme for packaging waste

In accordance with the rules, a scheme to collect packaging waste from their manufacturing should be put in place for the brand owners who sell or market their products in a packaging material that is non-biodegradable.

User fees for collection

The new rules gave local authorities in India the authority to assess user charges. City authorities can charge usage fees from bulk generators for collection, disposal and distribution. According to the regulations, the generator must pay the "User Fee" to the waste collector and "Spot Fine" in the case of waste disposal and non-segregation, the quantum of which will be decided by the local bodies.

In addition, new rules have been referred to on incorporating the State government into the formal sector rag pickers, waste pickers and kabadiwalas from the informal sector.

Waste processing and treatment

In compliance with the new rules, it was advised that the biodegradable waste should be refined, treated and disposed of as far as possible by composting or bio-methanation at the facility as needed. Developers of the Special Economic Zone, industrial estate and industrial areas shall devote at least 5% of the total area of the property to the recovery and recycling facilities or at least 5 plots/sheds.

All local agencies with 1 million or more inhabitants within two years will have to establish waste processing facilities. The rules also require the bio-remediation or capping within five years of old and abandoned dump sites.

Promoting the use of compost

According to the regulations, the Fertilizer Department, the Chemicals Ministry and Fertilizers will provide city compost for business growth assistance and ensure co-

commercialization with chemical fertilizers for the fertilizer companies, with a ratio of 3-4 bags to 6-7 bags as far as the composting sector is made accessible to the companies. In the Fertilizer Control Order, the Ministry of Agriculture should also provide for the manufacture and sale of compost, the promotion of compost use on agricultural land and the establishment of compost quality testing laboratories manufactured by local authorities or their approved agencies.

Promotion of waste to energy

In a not-so-welcome move, the Solid Waste Management Rules, 2016 emphasise the promotion of waste to energy plants. The rules mandate all industrial units using fuel and located within 100 km from a solid waste-based Refuse-Derived Fuel (RDF) plant to make arrangements within six months from the date of notification of these rules to replace at least 5 percent of their fuel requirement by RDF so produced.

As per the rules, the Ministry of New and Renewable Energy Sources should facilitate infrastructure creation for Waste to Energy plants and provide appropriate subsidy or incentives for such Waste to Energy plants. The Ministry of Power should fix tariff or charges for the power generated from the Waste to Energy plants based on solid waste and ensure compulsory purchase of power generated from such Waste to Energy plants by DISCOMs.

Revision of parameters and existing standards

Under this new regulation, the deposit site is located 100 meters from the river, 200 meters from the ponds, 500, 200 meters from highways, homes, public parks and wells and 20 kilometres from airports. There are complete modifications to the emission standards including dioxin, furan and particulate matter reduction limits between 150 and 100 and now 50. The compost standards were also modified to comply with the Fertilizer Control Order.

Management of waste in hilly areas

The development of sites on hills is to be avoided according to the new guidelines. In plain areas within 25 kilometres, land for building sanitary sites in hilly areas will be listed. Transfer plants and processing plants in hilly areas shall however be operational.

Constitution of a Central Monitoring Committee

The Government also created the Central Monitoring Committee, chaired by the Secretary of the MoEF&CC, to monitor the overall enforcement of the laws. The Committee of the various stakeholders of the central and state governments will meet once a year to track the enforcement of these laws.

Addressing specific environmental problems requires the formulation of rules and regulations that provide guidance and establish standards for effective management. Here are some rules in India that address specific environmental issues:

Bio-Medical Waste Rules, 2016:

The Bio-Medical Waste Rules, 2016, provide a framework for the proper management and handling of bio-medical waste generated from healthcare facilities. These rules establish guidelines for the segregation, collection, treatment, and disposal of bio-medical waste to prevent its adverse impact on public health and the environment.

Hazardous Waste Rules, 1989:

The Hazardous Waste Rules, 1989, aim to regulate the generation, storage, transportation, treatment, and disposal of hazardous wastes. These rules prescribe specific measures to ensure the safe handling and management of hazardous waste, preventing its release into the environment and minimizing potential risks to human health and the ecosystem.

Noise Pollution Rules, 2000:

The Noise Pollution Rules, 2000, set standards and regulations to control and manage noise pollution in different zones, including residential, commercial, and silence zones. These rules define permissible noise levels for various sources and outline measures to prevent and mitigate noise pollution, ensuring a healthier and more peaceful environment.

Ozone Depleting Substances Rules, 2014:

The Ozone Depleting Substances Rules, 2014, aim to regulate the production, consumption, and import/export of ozone-depleting substances (ODS). These rules align with international agreements and protocols for the protection of the ozone layer, such as the Montreal Protocol. They establish measures to phase out the use of ODS and promote the adoption of environmentally friendly alternatives.

Solid Waste Management Rules, 2016:

The Solid Waste Management Rules, 2016, provide a comprehensive framework for the management of solid waste in the country. These rules emphasize waste segregation at source, waste processing and treatment, and the promotion of recycling and resource recovery. They also outline responsibilities for local bodies, waste generators, and waste operators to ensure effective and sustainable solid waste management practices.

These rules play a significant role in addressing specific environmental challenges by providing a legal framework, standards, and guidelines for the management of specific types of waste, pollution sources, or environmental issues. By implementing these rules, authorities can regulate and monitor activities, promote best practices, and mitigate the adverse environmental impacts associated with these problems.

The End