"LEGISLATIVE APPROACHES TOWARDS ENVIRONMENTAL POLLUTION: LIABILITY OF POLLUTERS FROM NATIONAL AND INTERNATIONAL PERSPECTIVE"

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DISSERTATION

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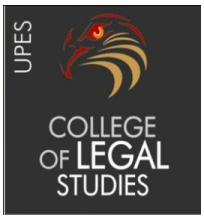
This dissertation is submitted in partial fulfillment of the degree of B.A.LL.B. (Hons.)



College of Legal Studies

University of Petroleum and Energy Studies

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DECLARATION

I declare that the dissertation entitled **"*LEGISLATIVE APPROACHES TOWARDS ENVIRONMENTAL POLLUTION: LIABILITY OF POLLUTERS FROM NATIONAL AND INTERNATIONAL PERSPECTIVE*"** is the outcome of my own work conducted under the supervision of **Dr. Ashish Verma**, at College of Legal Studies, University of Petroleum and Energy Studies, Dehradun.

I declare that the dissertation comprises only of my original work and due acknowledgement has been made in the text to all other material used.

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CERTIFICATE

This is to certify that the research work entitled ***"LEGISLATIVE APPROACHES TOWARDS ENVIRONMENTAL POLLUTION: LIABILITY OF POLLUTERS FROM NATIONAL AND INTERNATIONAL PERSPECTIVE"*** is the work done by **Aditi Jugran,** under my guidance and supervision for the partial fulfillment of the requirement of Int. B.A. LL.B. (Hons.)degree at College of Legal Studies, University of Petroleum and Energy Studies, Dehradun.

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ABSTRACT

The menace of pollution has reached at its pinnacle and has been drawing the concerns of various governments like that of Uttarakhand and Delhi. This is the reason why the concept of **ODD-EVEN** was incorporated on a **trial basis for 15 days** in the national capital. This work titled **"Legislative Approaches Towards Environmental Pollution: Liability Of Polluters From National And International Perspective"** is a platform which will help one understand the entire concept of pollution and environmental degradation. The primary question that this work raises is that **when there are more than 500 environmental laws in India, then why are our surroundings still in a state of mess and chaos.** Another point that this dissertation hints towards is that **why the government of Delhi is re-implementing the odd-even formula from 15thof April, 2016?**

Further a **comparison has been drawn between the enforcement mechanisms in India with that of the UK**, which will help in understanding that **where is in the enforcement that India is lacking and the associated problems.** Some recent examples like that of **pollution in river Ganga, The Ganga Mahasabha Agreement, National Green Tribunal's order on banning rafting in Rishikesh and ban on commercial activities in Rohtang have been analyzed.** It also looks into the various issues, challenges and the need of environmental protection.

ACKNOWLEDGEMENT

The text reported in my dissertation is not just a result of my own efforts and therefore, I would like to acknowledge the help provided by the library resources of my University. This dissertation is the result of dedicated hard and perseverance work on my part and constant motivation from my mentor **Dr. Ashish Verma,** who gave me his valuable time and guided me throughout the process. I acknowledge the blessings of my parents, well wishes from my friends and last but not the least Almighty, without which this dissertation wouldn`t have been possible.

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- State of Himachal Pradesh v Ganesh Wood Products

ABBREVIATIONS

dB: Decibel

HC: High Court

SC: Supreme Court

TOI: Times of India

CO_2: Carbon Dioxide

SO_2: Sulpher Dioxide

CO: Carbon Monoxide

(ppm): Parts Per Million

dB(A): Decibel Audio

EA: Environment agency

AIR: All India Reporter

SCC: Supreme Court Cases

CAC: Command and Control

(mld): Million Tonnes Per Day

NGT: National Green Tribunal

CNG: Compressed Natural Gas

ODS: Ozone Depleting Substances

TEFD: Terai East Forest Division

ETP: Effluent Treatment Plant

VOC: Volatile Organic Compounds

EIA: Environmental Impact Assessment

CPCB: Central Pollution Control Board

SPCB: State Pollution Control Board

RELK: Rural Litigation Entitlement Kendra

NTPC: National Thermal Power Corporation

MoEF: Ministry of Environment & Forest

CETP: Common Effluent Treatment Plant

NGRBA: National Ganga River Basin Authority

UFDC: Uttarakhand Forest Development Corporation

RCEP: Royal Commission on Environmental Pollution

SAFE: Social Action for Forest & Environment Action

CERP: Corporate Responsibility for Environmental Protection

OSHA: Occupational Safety and Health Administration

UEPPCB: Uttarakhand Environment Protection & Pollution Control Board

INTRODUCTION

"Nature provides a free lunch, but only if we control our appetites"

-William Ruckelshaus

Man has never been at peace with himself, rather he has always been working towards achieving more than what has been already ordained in fate for him. Factors like rapid industrialization, urbanization, advancement of science have guided him to go against nature and exploit it. To fulfill his pursuit of satisfaction, he has been causing harm to his natural environment in the form of pollution.

Pollution has been described as a disproportion in the atmosphere. As old as the civilization of human, it is a hazard born out of technical accomplishments applied to enrichment of human needs. There are many faces of pollution today like air, water, soil, nuclear hazards, solid waste disposal etc. The unplanned development on the socio-economic front has paved way for the natural resources to exhaust early. There is widespread corroding of land in which we live, the air we breathe and the water we drink, all of it is contaminated. An uncontrollable use is forcing us to face irreversible consequences. Quality of life has fallen down. It is our obsession for progress that has been ruining our own existence. Irrational conduct on the part of man together with other similar deeds is going against his own welfare. Time has come to pay for the damage that we have been causing to our surroundings.

There are many laws prevalent to protect us from the threat of pollution, but the actual problem lies is the identification of the causer. **The question whether it is the organization of laws or is it there implementation that needs to be looked into,** is still not clear. This dissertation is a sincere effort to provide answer to such question and leave us thinking **whether pollution is the price which we would be paying for unregulated economic and social development through advancement.**

KEYWORDS: Pollution, Human, Environment, Advancement

RESEARCH METHODOLOGY

Research means a logical and organized re-examination of current facts. It is also the knowledge that is useful in ascertaining whether the expected conclusion can be reached or not through the process of study. The research will be conducted primarily on the basis of doctrinal method. Doctrinal or traditional method of research, involves careful analysis of case laws, systematic arranging of the available material, drawing up an orderly legal proposition. Further, the doctrinal research creates law and its major tool through legal reasoning or rationale deductions[1]**.** A reference has been made both to the primary sources like those of legislations, statues, case laws, and report along with secondary sources like books, journals, articles, e-resources. The researcher has further adopted an analytical as well as a comparative approach towards understanding the problem of pollution.

STATEMENT OF THE PROBLEM

Environmental damage is any change or aggravation to nature's turf which is pernicious or undesirable. Ecological effect or degradation is a resultof mounting human populace, constantly expanding development policies and the application of natural resources intensive, exhausting and polluting technology. The United Nations International Strategy for Disaster Reduction characterizes environmental degradation as the lessening of the limit of the earth to meet social and environmental destinations, and needs. This rampant race to offer effluent life style to people and to accommodate the ever increasing population has been affecting nature in a very negative manner. Gandhi ji addressed the situation way back and reflected that **Earth has enough to satisfy every man`s need, but not his greed.**

Needless to say, the ugly face of development has reared itself like a provoked serpent ready to strike at the existence of life on this planet. Notable example is the tragedy that hit the state of Uttarakhand in June 2013. A once virgin hill region was invaded by

[1] S.N. Jain, Doctrinal and non-doctrinal legal research, 14 JILI 487 (1972)

humans who colonized it and the beauty and serenity of the region attracted people from all over the world. Consequently, disregarding various eco fragility of the region, trees were felled indiscriminately; forested areas were converted into roads, markets, hotels which affected its natural cycle. The Earth could take only that much, the floods due to cloud burst and melting glaciers due to global warming wrecked havoc claiming huge toll on life and property. If one was to visit what pre MC Mehta and CNG would have been NCT of Delhi, one can only imagine what the amount of pollution would have been plaguing it. Use of oxygen masks would have been must. It is pertinent to mention here that a bench of the Supreme Court led by CJI Hon`ble Justice HL Dattu has ordered to put up a hearing, on the harmful environment prevailing in NCT till now, by way of a PIL filed by 3 infants.

The notable International Bestseller Dan Brown has drawn the attention of his readers to the fact that the day is not far when all the resources of the Earth, whether be it oil, food, water, air or even space will be exhausted, world for its inhabitants will be like living in hell. This is the way when nature will have the final laugh, when humans will fight each other for water, or even space to sleep. Major cities all over the world are already facing such problems.

Global warming, climate change, melting of polar ice caps, pollution of water, soil by various industries, oil spills, indiscriminate dumping of toxic wastes, discharges of ionic radiation have made the world a dangerous place to live in. All this was addressed in the Rio Conference and the chair holders came out with a declaration, in Principle 16 they talked about polluter pays principle. The one who causes principle has to pay, for its eradication or to the victims. Owing to the fact that pollution knows no man made boundaries of state or nations, this principle has been welcomed by various countries, both developed/ developing and IOs like OECD and EU.

Now the question arises, **who is the polluter responsible?** In today`s globalized world, the question has gained huge importance because of the increased complexity in corporate structure of MNCs causing pollution. Also it might be so that a pollution caused in a country has effects in other country.

As early as the case of Rylands vs Fletcher in the turn of 19th century, the courts have recognized the importance of the problem of identifying the liable, by the principle of strict liability. The Indian Judiciary went a step further and enunciated the principle of Absolute Liability, which makes the escape of the person liable even more unmanageable.

The issue to be addressed in my problem would be bringing out the importance of **identification of the polluter and the various legislative measures by which he may be bound to either the punishment or pay compensation/damages or restore the environment**……Therefore the problem of the study is **Legislative Approaches Towards Environmental Pollution: Liability Of Polluters From National And International Perspective.**

OBJECTIVE OF STUDY

1. To evaluate the sufficiency of laws to deal with the menace of environmental pollution.
2. To check whether the institutional mechanism for environmental conservation is appropriate and sufficient.
3. To find out whether it is the nature of the pollutant or the nature of the target being achieved that should be given more emphasis.
4. To evaluate as to what extent has the precautionary principle been successful filling the gap between certainty and uncertainty i.e. in cases where environmental harm can be ascertained, but the possibility of the occurrence risk of that harm remains uncertain.
5. To find out whether we follow the path of ecological modernization i.e. shifting beyond penalizing polluters to make them bear the cost of restoration and also to reduce the load on the environment by minimizing and properly disposing of wastes.
6. To find out as to what level can the public contribute in the protection of environment?

SCOPE AND SIGNIFICANCE OF THE STUDY

The researcher attempts to conceptualize the problem of pollution i.e. amalgamate as to how economic development can take place without harming the environment. The scope of this research is to deal with the menace of environmental pollution that is being caused by the developmental. This study covers various types of environmental pollution, the efforts taken at international levels to curb this problem. There is a separate chapter that deals with the constitutional remedies that can be resorted to, in case pollution reaches beyond certain levels. Latest orders of the National Green Tribunal have been cited for the purpose of better understanding. A comparative study of UK and India will help analyze the enforcement mechanism present in both the countries.

RESEARCH QUESTIONS

1. Are there sufficient laws to deal with the menace of environmental pollution or is it their improper implementation that is creating a problem?
2. Whether protection of environment is high on people's priority in the current 21st century?
3. Is there a problem with the organization of environmental law i.e. division of law should be on the as per the medium of environmental threat it manifests eg. air, water, land or should the law be categorized as per the identity of the polluter eg. vehicles, power stations and factories
4. Whether it is the nature of the pollutant or the nature of the target being achieved that should be given more emphasis?
5. To what extent has the precautionary principle been successful filling the gap between certainty and uncertainty i.e. in cases where environmental harm can be ascertained, but the possibility of the occurrence risk of that harm remains uncertain?
6. Do we follow the path of ecological modernization i.e. shifting beyond penalizing polluters to make them internalize the external cost of their pollution, or spreading awareness as to how waste can be minimized?
7. To what level can the public contribute in the protection of environment?

HYPOTHESIS

1. The process of industrialization and urbanization has caused a severe damage to the environment.
2. Environmental laws have not been sufficient in curbing the degradation of the environment.
3. The process of development cannot be stopped but a sustainable balance between conservation and industrialization has to be sought in order to sustain human survival on the planet earth.
4. Responsibility of conservation cannot be discharged completely by one party or by a single stakeholder. There has to be combined efforts beyond boundaries and for this purpose, environment friendly technology needs to be facilitated by the way of international convention and its implementation.

LITERATURE REVIEW

Pollutants expose humans to a number of chronic diseases. This makes mandatory for the educators of health to make people aware about what are the harms resulting from pollution of environment. This review of literature will help develop an understanding about the variety of sources through which information relating to pollution has been obtained.

1 **Armin Rosencranz and Geetanjoy Sahu; ASSESSING THE NATION GREEN TRIBUNAL AFTER FOUR YEARS, Issued in JOURNAL OF INDIAN LAW AND SOCIETY, Vol 5: Monsoon, Pages 1-3, 9**

OBJECTIVE SOUGHT: *Article has helped the researcher to understand that there is an excessive burden of environmental cases and for that purpose NGT has been created, which is serving as an effective platform to curb pollution.*

The National Green Tribunal (NGT) formed in 2010 deals with disputes relating to environmental matters. With its five benches at Delhi, Chennai, Pune, Bhopal and Calcutta, it consists of judicial members as well as technical experts who have been

protecting the environmental administration in India. The current Chairperson of the NGT is Justice Swatanter Kumar, who took over from Justice Lokeshwar Singh Panta on December 20, 2012[2]. As per section 7 of the NGT act, his term will end in 2017[3]. Before the inception of NGT, there was National Environment Appellate Authority (NEAA) which provided environmental clearances in matters relating to developmental projects and worked under the Ministry of Environment and Forests. The need for establishing NGT was felt by the Parliament of India when it realized that there was a huge burden of litigation. So with the aim of early and prompt disposal of environmental matters, the NGT came into being. The NGT has now superseded NEAA.

THE NGT ACT- Fulfilling the obligations as enshrined under article 21 of the India Constitution is the primary objective of the NGT as stated in its preamble[4]. The NGT adjudicates cases relating to pollution, effects on natural resources caused by various developmental activities and the manner in which the legal rights of the people are being affected under the various legislations of the current era. The NGT also has the power to order the Ministry of Environment to conduct a review on the clearances that have been granted by it[5]**.** It has been working sincerely to maintain the balance between the environment on one hand and development on the other.

ASSESSING NGT WITH REPECT TO POLLUTION MATTERS- The NGT has adopted a reformist approach towards protecting the environment. It has challenged various big sectors for not complying with the provisions as laid down by the legislations. The case of Vardhaman Kaushik v. Union of India[6] raised concerns with respect to high levels of pollution in Delhi. A committee was formed, which banned all vehicles of more than 15 years to be used on the road, created an online portal and lead to the establishment of a high level task force; further banned the burning of plastics. It said that pavement should be constructed on both sides of the road in Delhi, air purifiers and

[2] Vide Notification No. S.O. 2967(E), published in the Gazette of India on 20-12-2012.
[3] The National Green Tribunal Act, 2010,
[4] *See* The Preamble, the National Green Tribunal Act, 2010: "AND WHERAS in the judicialpronouncement in India, the right to healthy environment has been construed as a part of the right to life under Article 21 of the Constitution."
[5] PrafullaSamantrayv. Union of India, Appeal No. 8 of 2011 dated 30-3-2012.
[6] Original Application No. 21 of 2014.

automatic sensors to be installed at appropriate locations[7], multi-level parking should be constructed at appropriate areas[8]. In case of Manoj Mishra v. Union of India[9], the tribunal had given 28 directions to protect the pollution in river Yamuna with respect to sivilcuture and floriculture activities.

Further, the NGT has gone a step ahead and has been dealing with matters relating to grant of licenses.

NGT not only settles the conflicts relating to environment but also puts a check on the infrastructure projects.

2. Chetan Chauhan; 13 out of world's top 20 polluted cities in India, only three in China[10], conducted by Hindustan Times, New Delhi, Updated: Jun 05, 2015 12:08 IST.

OBJECTIVE SOUGHT: *Will widen the statistical knowledge about pollution*

It is said that when it comes to economics, India definitely lacks behind China but in cases of degradation of environment, India has out powered China.**I3/20** top polluted cities in the world are located in India. Ganga and Yamuna are among the **10** most polluted rivers worldwide, whereas China has only one. Recently in February, a study for the **most degraded zones** in the world was conducted in which **Vapi** (Gujarat) and **Sukinda** (Odhisa) ranked within 10. China is followed by **India** at no. **3** when it comes to carbon emissions. India certainly lacks the ability to control the effect of economic growth on its environment. It has been that China has reduced its air pollution by 40% since the year 2000 and has cleaned most of its rivers which were polluted but such an action certainly lacks on part of India. In contract, it has been noted that **Delhi** has **increased its air pollution by 20**%. It is only Coimbatore in India, where the air is still clean and fit for human breath. The Indian air samples have a high level of toxin, as

[7] Vide order dated 26-11-2014.
[8] Vide order dated 19-1-2015.
[9] Original Application No. 6 of 2012 and MAs Nos. 967 of 2013 & 275 of 2014 dated 13-1-2015.
[10] See http://www.hindustantimes.com/india/13-out-of-world-s-top-20-polluted-cities-in-india-only-three-in-china/story-myTrPZM8DHmQOhxB9cc5hI.html

proved in a study by Lancet 2012 (6th biggest killer). The Centre for Science and Environment, an NGO based in New Delhi, states that it is the rivers that amount to maximum pollution by piling up the garbage on its banks. The Central Pollution Control Board after analyzing the quality of water of 290 rivers for 3 years in India has concluded that 8,400 kms of river water is not fit for aquatic species. Shashi Shekhar, the current chairman of CPCB says that excessive runoff of dirty water into the rivers has led to its rampant pollution. But at the same time, pertinent to mention here is the example of Bangalore, where a group of bikers have produced a fertilizer that is organic in nature from waste material in Bungroo and Kolkata. Besides this, the Gujarat Ecological Commission has converted a waste area into productive are for growing crops.

3. **Matthew Knight; Air pollution kills over two million people each year, study says - CNN.com, Updated 1313 GMT (2013 HKT) July 16, 2013**
   OBJECTIVE SOUGHT: *Develop an understanding on air pollution*

This study brings into light the fact that the pollution of the ozone layer has been killing 4,70,000 people per year and 2.1 million persons lose their life due to particulate matter in the sir which increases the anthropogenic.

A study of Environmental Legal Letters conducted by Jason West shows that India has the **second highest air pollution mortality** rates with an estimated 397,000 deaths from fine particulates and ozone accounting for, on average, 118,000[11]**.**

4. **DISSERTATION ON ENVIRONMENTAL POLLUTION AND GLOBAL WARMING 27-08-2013, Pages 6-9**[12]

OBJECTIVE SOUGHT: *To acquaint the reader with the problem and causes of pollution. It goes further and says that sustainable development is the urgent need of the hour.*

[11]See http://edition.cnn.com/2013/07/16/world/air-pollution-killing-study/
[12] See http://www.slideshare.net/PatriciaRodrigues54/dissertation-on-environmental-pollution-and-global-warming-27-082013

Environment is addressed as a polycentric and intricate problem directly affecting the human race. Pollution and progress go hand in hand. Best example to mention is that of the nuclear tests that are carried out by one nation, have an effect on the other. The researcher has identified urbanization, population explosion, depletion of Traditional natural resources, research of new sources of energy and raw materials as the causes for deterioration of the environment.

Technological advance has invested human with immense powers and his unthinking use of that clout has an eroding effect on nature[13]. **Sustainable development has thus been underscored**[14]. Global warming is therefore seen as an alarming threat. Rise in hazards has now been upto 300 m tonnes per year approximately. Rivers are responsible to maximum extent. Man himself is liable and is now forced to face bleak prospects of life. This work classifies different types of pollutions, namely air, water, soil, nuclear hazards, radioactive pollution etc .It lists use of chemicals, fertilizers from industry and agriculture, deforestation of human dwellings, mining operations and unplanned drainage and sewage systems as causes of pollution.

5. **White paper on Environmental Liability, COM(2000) 66 final, 9 February 2000, Presented by the European Commission, Directorate General For Environment, ISBN 92-828-9179-8**

   OBJECTIVE SOUGHT: *To help analyze the researcher the concept of polluters pay.*

Accurate application of the polluters pay principle has been the principal concern of the European Commission. It calls for no retroactivity, strict liability for damage caused by inherently dangerous activities and maintaining equilibrium between traditional damage and impairment of the environment. In this paper, two issues are attended to **1) The compensation to the victims) restoration of the environment**.

- In cases where the polluters pay principles not applicable, compensation is sought through litigation, but the problem of reinstating the area still persists i.e. the

[13] Shri Schidanand Pandey v/s State of West Bengal, AIR 1987, SC 1109

[14] See http://www.un-documents.net/our-common-future.pdf

polluter has escaped the liability. The burden of liability now ultimately falls on the taxpayer once the government has cleared the region (eg in case of an oil spill).

- In cases of polluters pay, the polluting party is supposed to pay the damages as well as restore the site.

Conclusion Drawn: Initially, the polluter might have considered paying compensation to be easy, rather than working on an eco-friendly technology but now after the implementation of polluters pay principle, he will realize that by preventing pollution, the cost of compensation as well as that of restoration can be avoided.

6. **Draft Guidelines, Implementing Liabilities for Environmental Damages due to Spillage/Fire/Illegal Disposal of Hazardous Waste and Penalty; Central Pollution Control Board (Ministry of Environment, Forest and Climate Change, Government of India), Issued in March 2015, Pages 1-12, 31**
   OBJECTIVE SOUGHT: *To examine the parameters on whose basis the liability can be fixed.*

In Ramubhai Kariyabhai Patel v. Union of India & Others[15] the NGT, Pune bench ordered the Gujarat Pollution Control Board as well as the CPCB to undertake immediate steps to handle the harmful effects of pollution causing activities. It focuses on the legal liability aspect as embodied under the polluters pay principle so that economic efficiency can be achieved. U/s 9 of the EPA, 1986, it has been mentioned that the person in whose premise the discharge has occurred (beyond permissible limits) or there is a possibility of such occurrence should undertake steps to mitigate it. U/r 12 of the EPA Rules 1986, the disaster relief management authority within whose jurisdiction the action has occurred would be informed. U/s 15 of the EPA, the Tribunal has the power to order for relief or compensation to the victim for the pollution suffered by him, it may also ask for the restitution of the property or any other area as it deems fit.

In addition to this, it shows the impact of hazardous wastes on water, soil, biodiversity,

[15] Vide Order dated on 18/2/2014

ground water, surface water, human health, crops etc. It lists down the roles of SPCB/PCC as mentioned hereunder – 1) Hazardous Waste Incident Team to be constituted that will have experts in soil, water, air pollution, and hydrology. These would collect sample and help in fixing liability for pollution. 2) Collection of samples, minimum three 3) Inform the polluter 4) Co-ordinate with Hazardous Waste Incident Team and based on its report check whether the immediate steps have been taken or not.

7. **Report HIGH LEVEL COMMITTEE to review various acts Ministry of Environment, Forest & Climate Change, Government of India, November 2014**

   OBJECTIVE SOUGHT: *Whether it is the insufficiency of laws or their proper implementation that is lacking?*

The committee reports that the **stewardship of the environment** has till date not been appropriate irrespective of the fact that there are various prevalent acts along with other rules and procedure that are working hand in hand with the executive guidelines. A mere dabbling with the act would be of no purpose, unless there is **accurate prosecution**. These statues developed their suppositions from secluded and monochromic regulatory surrounding which were promulgated keeping in mind the conditions of that period, but the current scenario is totally different. Excess of mechanisms are being developed to curb the harmful effects of the environment depletion. So, the urgent necessity lies in the integration of environment, economic and social issues in the development paradigm. There is a burning need of **harmonious construction between the cycles of nature and development**. It is said that resources have been inherited by a generation in mortgage for youngsters of tomorrow and so we are duty-bound to preserve them. The flabby governance of environment is what needs to be seriously addressed. The impression created is that the acts have been simply fulfilling mere the obligation of an unprincipled administration, at Centre and States levels. Delay in approvals and a number of clearances in one go prove this fact. Entrepreneurs of today lack morality, to make their business a success they are ready to seek any short-cuts and pay exorbitant prices to get clearances. The committee finds that the state has not been working properly and therefore the judiciary felt the need of intervention. There is lack of executive will. The

legislations are weaker, monitoring is weaker and enforcement is the weakest. The penal system is not adequate and the punishments are not properly executed. There is a requirement of a comprehensive and effective approach that will help in conservation of air quality and water standards.

8. **Pradip Kumar Kashyap & Suneet Dwivedi, Environmental Protection Law and Policy In India, Pages 1-7**

   OBJECTIVE SOUGHT: *Create understanding about various sources of pollution*

There is a constant interaction between man and environment. Necessity is to maintain a balance between the environment and its use. This is called **conservation** which involves conservation of natural resources[16]. The prime focus of this paper is on the potential **pollutants** that are often released into air, water and land on a regular basis[17]. Renowned author Miguel A. Santos identifies at least three general characteristics of environmental pollutants[18] namely, boundary barriers are unknown to pollutants, causing destruction of natural habitat, longer stay in the ecosphere. It further categorizes pollutants into biodegradable and non-biodegradable pollutants. An emphasis has been laid on **Fossil Fuel Sources of Environmental Pollution.** Their burning causes an excessive level of air pollution (CO_2) and contamination of soil during the process of their transportation. Power plants, manufacturing units, shipping industry, automobile industry have been identified as the primary sources of pollution. The **Non-Fossil Fuel Sources of Pollution** include runoff of pesticides and chemical fertilizers into rivers, streams, soil. Besides this, the other sources are the solid municipal wastes that are generated from residential as well as trading sector.

[16]Our Environment Introduction, Retrieved from http://www.tutorvista.com/content/science/science-ii/ environment /introduction.php,
[17] Santos, M. A. (1990). Managing Planet Earth: Perspectives on Population, Ecology, and the Law. Westport, CT: Bergin & Garvey, p. 44. Retrieve from Questia.com
[18]Ibid, pp. 44 – 45

CHAPTER1-DEFINITION AND MEANING OF THE ENVIRONMENT

1. CONCEPT OF ENVIRONMENT

In **Sachidanand Panda v State of West Bengal**[19], Justice Chinappa Reddy stated "the earth in its entirety is sacred, be it a tiny needle or a shore that stretches deep in the sand, every vapor on timbers, every claring and humming insect is holy in memory and experience of any people. The sap of trees transports the memories of red man. We all are the apart of earth and it is the part of us".

This shows the praiseworthy concern towards the environment. The existence of man is impossible without nature's blessings. So, in order to harmonize the behavior of people with that of the nature, it is important to have a sound understanding as to what constitutes the environment.

Environment in Hindi/Sanskrit is **"Pasyavaran"** and literary means ***'Pari-aavaran i.e. External covering or encompassing human existence***[20]**.** Suktas in the **Rigveda** are dedicated to the incarnate nature, which show that environment was venerated by all the Rishis to ensure the wellbeing of all. Proven hymns in praise of gods like Sun, Sky, Agni, Varuna, Vaayu reveal the interdependence and connectivity between nature and man. There is a mention of ecosystem in the Rigveda, which shows relation with the primitive man. **Rishi Dirghatama**[21], in Yajurved says that one should avoid disharmony in the ecosystem. Establishing a linkage between consumption and the concept of Tyaga, it has been said that overexploitation of the environment should be avoided. The **Aitareya Upanishads**[22] further reinforce this idea and states that consciousness (prana), plants, sun, moon, directions have all evolved from intergalactic Purusha fire. The Rigveda has always been in awe of nature. Humans have come up with different rituals to show their indebtness to the environment.

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[19] From the letter of 'The wise Indian chief of Seattle'

[20] Dr. H.N. Tiwari , ENVIRONMENTAL LAW , Allahabad Law Agency, (Reprint 2007)

[21] Quoted with permission from the paper of Dr. PushpaTiwari " Environmental issues an Reflected in the Classical Thought of India; Some Reflection "published by Ganga SevaNidhi Project on Environmental Issues: Rigveda : 1.23; 19-20; 1.34; 1.102.2; 1.140-150; 1.164.8; 5.84; 6.70; 7.1-01-102; 10.18.10; 10.65; 10.81-82; 10.146; 10.190

[22] Supra 3

Even **Kautilya's Arthashastra**[23] has a character of the environment and calls for a restriction over needless consumption of natural resources, thereby working towards achieving sustainable development.

When one does a careful perusal of **Manusmiriti**[24], concepts like Kama, Moksha, Purity, Preservation of Earth, Water, Air gain recognition. Pertinent to mention here is a sholka of **Matsyapurana**[25] where Goddess Parvati says that "one who constructs a well in an arid area he enjoys heaven in proportion to every drop of water of that well".

1.1 GENERAL DEFINITONS

Dr. T.N. Khoshoo[26] defines environment as the sum total of all the situations, those of which affect the development of life.

According to **C.C Park**[27], environment refers to sum total of all the circumstances which surround a man at a fixed time and galaxy.

According to **Goudi**[28]**,** physical parts of the earth make up the environment. Man being an important influence.

Bell defines it as "environs meaning surroundings"

The **United States Council on Environmental Quality**[29] provides that "the environmental system is not only the biosphere but also man's interactions with his natural and man-made surroundings".

The **Encyclopedia Britannica**[30] defines environment as "an external influence that acts on an organism, both physical and biological."

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[23] Supra 3
[24] Supra 3
[25] Supra 3
[26] Secretary, Department of Environment, Government of India: R.P. Anand Ed., Law Science and Environment (1987) P.XXIX
[27] Dr. N. MaheshwaraSwamy , TEXTBOOK ON ENVIRONMENTAL LAW, Asia Law House, Hyderabad, (2nd ed)
[28] Supra 9
[29] First Annual Report 6 (1970)

1.2 STATUTORY DEFINITIONS

The **Environment (Protection) Act,1986** in section **2(a)**[31]defines environment and says that it includes the inter-relationship that exists between water, air, land and human beings, other living creatures, plants, micro-organism and property.

According to **The International Union for Conservation of Nature (IUCN)** and **Natural Resources Commission on Education**[32], environment is to be seen as a study of recognizing concepts in order to develop necessary skills towards understanding and appreciating the relatedness among man, his culture and his biophysical surroundings.

1.3 COMPONENTSOF ENVIRONMENT[33]

There are three components of environment

- **Abiotic or the non-living component** i.e. lithosphere, hydrosphere and atmosphere
- **Biotic or the living component** i.e. flora and fauna
- **Energy Component** i.e. solar energy, geo-chemical energy, thermo-electrical energy **etc.**

1.3.1 TYPES OF ENVIRONMENT[34]:

There are two basic types of environment

- ***Natural environment or the homeostatic mechanism*** i.e. the self-regulating environment or that which can exist independently
- ***Man-made environment*** i.e. the one created for industrial development, does not have an existence of its own

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[30] Supra 9
[31] Supra 9
[32] Supra 9
[33] Dr. N. MaheshwaraSwamy , TEXTBOOK ON ENVIRONMENTAL LAW , Asia Law House, Hyderabad, (2nd ed), Chapter 1: ENVIRONMENT- CONCEPT, MEANING, NATURE AND SCOPE
[34] Supra 15

1.4 DEVELOPMENT AT THE COST OF ENVIRONMENTAL DEGRADATION

In his urge for development, man has been harming his surroundings. In order to obtain economic stability, there is disturbance of the biosphere. This is causing continuous destruction. Substances of nature like coal, petroleum, minerals are being consumed at a very high pace and nothing has been done bring their substitutes into existence. This is effecting the composition of the environment. Our society seeming lacks in maintaining the balance between economic output and the quality of environment. Many a times, it is seen that the cost of pollution is paid not by the polluter, but by others. A leading example here is of the Oswan Dam constructed on the banks of river Nile, used for generating electric power. Now it will be seen that this construction requires a large area and would thus lead to displacement of the original soil. It would also carry a number of crippling diseases with it, example Bilherzia. This entire construction process involves a large amount of silt deposition on the river, which was not paid heed by the builder. It has led to a decline in the number fisheries of the eastern Mediterranean.

Examples of Progressive Undertaking & their consequences on the nature	
DEVELOPMENTAL ACTIVITIES	***IMPACTS***
Clearing of forest cover and resettlement of land	Leads to decline in of flora and fauna, may cause diseases like malaria
Bringing pesticides into use	Pesticides may result into hazards when they get washed off into the water bodies
Construction of dams	Removal of human population, besides this they may also be prone to many water borne diseases; fish population may be reduced

From the abovementioned examples it is clear that ***environment is an essential component of life on earth, without which man will have to face a lot of difficulties in survival.*** Currently, environment is at the mercy of man. Our biosphere provides us with both mechanisms, 1) extraction of energy 2) discharge of harmful substances. When this

supporting system gets adulterated, the biosphere is said to be infected. It is for this reason that ***man is duty-bound to protect his environment***. Nature carries on its purification cycle whereby which the water is evaporated and gets condensed into rain. Oxygen of the air is absorbed by the surface water to decompose the organic material. Inorganic stuff is washed off into the seas. There is widespread urbanization, clearing of forest cover, dumping of waste material and in this way, human carelessness has crossed all boundaries

SO NOW THE QUESTION POSED BEFORE US IS THAT: ***DEVELOPMENT AT WHOSE COST?***

So, in case of **Karnataka Industrial Areas Development Board v. Sri C. Kenchappa & Others[35],** Supreme Court held that there is a need to strike a balance between sustainable development and environment. Before acquiring any land for developmental purposes, all implications and adverse impacts on the environment must be suitably anticipated and comprehended and only then should the land be acquired for development in a way that it does not impair the ecology and the environment.

1.4.1 ENVIRONMENTAL PROTECTION AND ANCIENT PHILOSOPIES

Ancient Indians have always worshipped certain plants, birds, animals and amphibians like snakes. During that time, earth, sky, sun, moon etc. were symbols of God. They acted as a protective shield against all sorts of unexpected evils. Unnatural activities could be best avoided as the primitive man was living in harmony with the environment. Cleanliness of surrounding was considered a primary duty of man. Principle of **"Ahimsa Parmo Dharma"** was preached. Yajnas were conducted to purify the air. Animal protection was important in the Atharva Veda, while Manusmriti prohibited cruelty towards animals. Hindu mythology believed that God resided in air, water, sky, trees and land. Their worship amounted to worshipping nature. Various trees like Tulsi, Pipal, Oak,

[35] AIR 2006 SC 2038

Ashok, Neem, Mango are still worshipped as deities. Likewise Lion, Tiger, Monkey, Elephant, Bull are worshipped with divinity.

1.5 ENVIRONMENTAL MOVEMENTS

THE BISHNOI'S[36]

Bishnoi cult evolved at Khedaji in Rajasthan and was based on conservation of the environment. In 1730, the Maharaja of Jodhpur had ordered his men to cut down the Kajri trees which he required for producing lime-motor in the Kedaji village. This was objected to by the Bishnoi's, who hugged the trees and did not allow them to fell. Ever since then, this supreme sacrifice has acquired fame worldwide.

CHIPKO MOVEMENT[37]

Taking inspiration from the Bishnoi's, the people in the Garhwal Region of Uttarakhand were against the felling of trees. The name comes from the word CHIPKO meaning to "embrace". The tribal women had to walk a distance of 10-15 kms in order to collect timber that was used for cooking. These timer forests were recklessly being cleared by the contractors for their commercial interests. This hasty destruction of the hills resulted in landslides and floods in the Alkananda and Bhagirathi valley, thereby causing destruction of the ecosystem. When the axemen came to cut down the trees, the women hugged the trees and prevented them from being cut down. The prominent figure in this was Sunderlal Bahuguna, a Gandhian activist or philosopher, whose appeal to Mrs. Indira Gandhi resulted in the green felling ban. This movement was recognized as one of the most effective Environment Protection Movements by the U.N. Conference on Human Environment held at Stockholm.

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[36] H.V. Jadhav and Dr. S.H. Purohit , Global Warming & Environmental Laws , Himalaya Publishing House, (Isted 2007)

[37] Supra 17

TEHRI DAM[38]

The Tehri Baandh Virodhi Sangarshan Samiti, was a committee founded by a veteran freedom fighter Veerendra Datta Saklani who has been opposing the construction of the dam on the river Bhagirathi in the Garhwal region. It was argued that the region was a seismic sensitive region and construction of the dam would lead to submergence of forests areas along with Tehri Town. The movement was not a success.

SILENT VALLEY MOVEMENT[39]

The Silent Valley is located in the Palghat district of Kerela. Surrounded by Attap and Nilgiri forests, it is a reservoir of genetic diversity in the Western Ghats covering an area of 40000 hectares. It has a number of plants having medicinal importance. The Government of Kerela wanted to construct a dam here, so that 120M.W. of electricity could be generated. It was believed that the dam would submerge the valley to create a reservoir. A number of protests were heard and the Hydel Poject was cancelled by the then PM Mrs. Indira Gandhi and silent valley was proclaimed a biosphere reserve.

SARDAR SAROVAR PROJECT- NARMADA DAM[40]

Narmada is the largest westwards flowing river from Karnataka in Shahadol District of Madhya Pradesh and9.88 million hectares of water capacity. As a part of its Narmada Basin Development Programme, the MP government started the construction of 31 damns and a total of 450 projects involving a cost of Rs. 25000 crores. It was believed that this would bring in many benefits for the state in the form of water supply, generation of power etc. This project raised many social concerns. It was said that this would submerge 1000 villages and over 50,000 hectares of agricultural land, thereby displacing 1 million people. This later received clearance from the SC in 2000, under certain conditions.

[38] Supra 17
[39] Supra 17
[40] Supra 17

1.6 ENVIRONMENTAL AWARENESS AND EDUCATION

The consciousness towards environment is an urgent need of the hour. In **M.C. Mehta v Union of India**[41]it has been said that for human to follow and obey law, it is necessary that there should be appropriate awareness about the requirement of law. A deep rooted reality is that the law is grounded upon a philosophy, which should be strictly adhered to. This can be achieved only if adequate steps are taken to make people cognizant with the present day needs. So, as per the SC, following directions were required to create environmental awareness:

- The Ministry of Environment, Government of India should make available appropriate material on various aspects of environment and pollution. This should be displayed without any charges during breaks in the cinema halls etc.
- Short environmental awareness documentaries should be made to create awareness.
- All India Radio and Doordarshan should assist in educating individuals.
- Every state government and education board should enforce compulsory environmental education.

In **M.C. Mehta v Union of India**[42], the apex court directed the NCERT to prepare and submit a module syllabus to be taught at different grades that would focus on the environment. Any sought of non-compliance on the part of the educational institution would be treated as an act of disobedience and would result in a disciplinary action.

[41] AIR 1992 SC 382

[42] AIR 2004 SC 1193

CHAPTER 2- CONCEPT OF ENVIRONMENTAL POLLUTION

2. POLLUTION

Royal Commission on Environmental Pollution U.K.[43] defines **pollution** as a condition by which man brings in some substance that is of hazardous nature into his surroundings. This affects both man as well as other living beings.

Section 1(3) of the **U.K. Environment Protection Act**[44]defines **pollution** as an action of liberating materials from any process which can cause harm to man and other organisms in his backdrops.

Besides this, pollution is alsoany uninvited change in the physical and chemical contents of air, water and soil that causes a damaging hazard to health, safety or welfare of living species.

As per the **Environment Protection Act 1896**, a **pollutant** is any solid, liquid or gaseous substance present in such concentration so as to be injurious to environment.

A pollutant may be any **geo-chemical** (dust, grit, sediment), **chemical substance** (organo-phosphorus, gas traces), **biotic components** (pollens) or **physical agent** (heat, sound) that is intentionally released into the environment by man so that they cause an adverse effect on the environment.

Under section **2(c) of the Environment Protection act, 1986**[45]**,** environmental pollution means the presence of impurities in the atmosphere.

2.1 CATEGORIZATION OF POLLUTANTS[46]

- **Metals** i.e. Mercury, cadmium, nickel, arsenic, iron, zinc
- **Gaseous chemicals** i.e. oxides of carbon, sulpher, nitrogen, ozone halogens, chlorofluorocarbons (CFC)
- **Intricate organic compounds** i.e. Ether, acetic acid, benzene

[43] Supra 15
[44] Supra 15
[45] Supra 15
[46] Supra 15

- **Products from agriculture** i.e. herbicides, pesticides
- **Radioactive fallout** i.e. Nuclear reactor waste, radioactive fallout
- **Solid waste** i.e. Plastic container, polythenes, automobile spares, building material waste.
- **Noise** i.e. Domestic and industrial noise
- **Degradable pollutants** i.e. domestic sewage
- **Non-degradable pollutants** i.e. aluminum cans, longchain phenolic compounds, DDT

2.2 ENVIRONMEMAL POLLUTION: SOURCES

Fossil Fuel Sources[47]: We not only use fossil fuels in our everyday work like that of filling a vehicle, but also in power generation. They (specifically oil) are present in forms of solvents, asphalt, detergents, plastics etc. Extreme air pollution is caused by combustion of these fuels. Example in cases where oil is being transported through tankers, any sought of leakage may cause oil spill. In addition to this, there are other natural resources like uranium whose explosion is extremely dangerous and takes years to neutralize.

Some common sources are refineries where petroleum is reformed, petrochemical plants, transport sector, aircrafts and shipping industry.

Non-Fossil Fuel Sources[48]

Agricultural sector is the largest generator of ammonia emissions which cause air pollution. Besides this, pesticides and fertilizers are also used in agriculture, which may lead water pollution and soil contaminations. Residential as well as transport sector also lead leading to soil contamination and air pollution

Environmental pollution effects: Bhopal Gas, 1984

On December 2 1984 (midnight), a definite dosage of the venomous methylisocyanate gas leaked from a tank of the pesticides plant in Bhopal that was owned by Union

[47] Pradip Kumar Kashyap&SuneetDwivedi, Environmental Protection Law and Policy in India
[48] Supra 28

Carbide, a US Company. The fumes of harmful gases swirled in the nearby slums, killing people in huge numbers. Others were left with burning sensation in the eyes and contraction of respiratory track. Estimates of the number of people killed on the first night range from an official figure of 3,000 to as many as 7,000. Since then, at least another 10,000 to 15,000 of those affected have died[49].

2.3 CAUSES OF ENVIRONMENTAL POLLUTION

- Increase in number of people living in an area
- Unthinking use of knowledge
- Setting up of industrial units in an urge towards development
- Misuse or irregular use of earth's resources
- Inadvertent disposal of pollutants in the air
- Inapt management of solid waste
- Unduewarmth and sound
- Failure to prevent escape of radiation

In **Indian Council for Enviro Legal Action v Union of India[50],** the SC after scrutinizing the report of NEERI declared that chemical industries are the main culprit behind pollution as they have always violated the orders of lawful authorities and courts with impunity.

2.4 TYPES OF POLLUTION

2.4.1 **AIR POLLUTION*:*** Section 2(a)of the Air (Prevention and Control) of Pollution Act, 1981 defines it as any solid, liquid or gaseous substance including noise present in the atmosphere in such levels as may be detrimental to human health, property or environment.

[49] Elliott, J. (March 25, 2002). "Bhopal Refuses to Flip the Page: After More Than 17 Years, Thousands of Indians Still Suffer from the Lethal Gases That Leaked from a US Chemical Plant". *New Statesman, 131*.

[50] AIR 1996 S.C. 1446

POLLUTANTS	*NATURAL*	*ANTHROPOGENIC*	*EFFECTS*
Ammonia	Biological activity	Dye-making, explosives	Swelling of upper breathing passage
Arsenic		Soldering	Kidney damage, diarrhea, jaundice
Carbon dioxide	Oxidation of soil, biological decay	Burning of organic matter, cement production	Greenhouse effect, respiratory troubles, suffocation
Carbon monoxide	Forest fires	Burning of coal	Headache, reduced oxygen carrying capacity of blood in humans and animals
Suspended particles (dust, smoke,flyash)	Dust storms	Mines and quarries, power-stations, incinerators	Eye irritation, cancer
Lead		Automobile exhaust	Reduction of hemoglobin causing anemia
Mercury	Weathering of rocks	Production of fungicides, cement production	Liver and kidney infection, paralysis, blindness

Source: Global Warming & Environmental Laws by H.V. Jhadhav&Dr. H.S. Purohit, Himalaya Publishing House, (1st ed, 2007)

2.4.2 **WATER POLLUTION*:*** According to Water Prevention and Control Act, 1974, water pollution means alteration of physical, chemical and biological properties of water or discharge of any sewage effluent or any other gaseous, liquid substance into water whether directly or indirectly or is likely to create nuisance or render such public health or safety or to domestic, commercial, industrial, agricultural or other legitimate uses.

2.4.2.1 **FORMS OF WATER POLLUTION**

- **Thermal pollution*:*** It is caused due to changes in biota of a water body due to excessive heat and cooling of water. When there is unwarranted heat, the level of oxygen falls down which in turn increases the metabolic rate of the organisms. Then there are thermal shocks suffered by the fishes, resulting in their death. The marine organisms are also at risk of being attacked by parasites and pathogens.
- **Nutrient pollution and eutrophication:** All marine plants and animals require a certain level of organic and inorganic nutrients. At times when these increase than the normal, they turn into pollutants.

  Eutrophication*:* It is a process where there is a rich nutrient level in the water bodies due to which the oxygen supply if totally cut off, causing death of marine animals. It leads to algal bloom.
- **Ground Water Pollution:** Once the wash off from rivers reaches the ground water, they remain there forever. The major contaminants are heavy metals, chlorides, nitrates etc.

WATER POLLUTANT	SOURCES	EFFECTS OF HEALTH
Polychlorinated biphenyls (PCBs)	In production of plastic containers, wax	Fatigue,vomiting, stillbirths
Vinly chloride	Use in plastics	Liver and brain cancer
DDT	Insecticide	Causes tremors,breakdown of nervous system
Nitrates and nitrites	Come from septic tanks, sewage treat, sewage treatment plants, when the cattle takes in such water, nitrates get converted into nitrites by intestinal bacteria	Nitrites when combine with hemoglobin forms methemoglobin which interferes with the oxygen carrying capacity of blood, causing methemoglobinemia
Dioxin	Herbicide	Causes chromosome

		malfunctioning

Sources: Global Warming &Environmental Laws by H.V. Jhadhav& Dr. H.S. Purohit, Himalaya Publishing House, (1st ed, 2007)

2.4.3 **SOLID WASTE POLLUTION:** Includes plastic containers, polythelene bottles, crockeries, automobile parts, cycle parts thrown in the form of garbage. Besides this, it also includes dead animals, suldge, crop residues etc.

2.4.4 **NOISE POLLUTION:** Is an unwanted or disagreeable sound that causes discomfort to the human ear. Decibel is a unit that is used to measure the level of noise in the atmosphere. When it comes to the recommended level of noise, the Ministry of Environment and Forest has notified the ambient standards of noise. Daytime standards for industrial and silence zone are 75 and 50 dB respectively. Occupational Safety and Health Administration (OSHA) provides for permissible level of noise that can be allowed to human ear.

2.4.4.1 SOURCES OF NOISE POLLUTION

- Use of loudspeakers on occasions like elections, festivals, marriages and heavy machinery used during drilling/mining operations
- Among the mobile sources, noise from transport, industries, construction work are very common

2.4.4.2 NOISE POLLUTION: EFFECTS

PHYSIOLOGICAL EFFECTS

- It speeds up the pulse and respiratory rates
- Impairs hearing both permanently or temporarily. Further patients are prone to massive heart attacks, hypertension, deafness.

PSYCHOLOGICAL EFFECTS

- Causes irritation in the nerves, excessive stress and annoyance, contraction of muscles

BEHAVIORAL EFFECTS

- Causes irritation because of which school going children usually lack concentration

PERSONOLOGICAL EFFECTS

- Effects an individual's personality and causes high blood pressure, fatigue and insomnia

Besides this, effects can also be classified into:

AUDITORY EFFECTS

- Wooziness and lowers the hearing capacity

NON-AUDITORY EFFECTS

- Decline in the working efficiency
- Mental distortion and anger
- Physical sickness, thereby interfering with sleep
- Changes in skin temperature
- Anxiety and phobia

HIGH INTENSITY NOISE AND RELATED HUMAN HAZARDS	
Noise Intensity (dB)	Health Hazards
80	Annoying
90	Hearing damage (8hrs)

95	Very annoying
110	Stimulation of reception in skin
120	Pain threshold
130-35	Nausea, dizziness, vomiting
140	Prolonged noise would result in insanity
150	Changes in pulse rate
160	Minor permanent damages
180	Rupturing of ear drum

Source: Global Warming & Environmental Laws by H.V. Jhadhav&Dr. H.S. Purohit, Himalaya Publishing House, (1st ed, 2007)

2.4.5 **RADIOACTIVE POLLUTION:** Radioactive elements like radium, uranium emit invisible effects which we call radioactivity.

Radioactivity is a phenomenon which is exhibited by unstable isotopes like alpha, beta, gamma**.** Rays coming from these particles is harmful in nature. 0.25 Roentgen per week is the safest limit to which humans can be subjected. Any dose higher than 0.25 Roentgen causes brain tumor, cancer and cataract.

2.4.5.1 SOURCES OF RADIOACTIVE POLLUTION

- Nuclear power plants, explosion test of nuclear war material
- Waste containing radio nuclides produced in laboratories and hospitals, engaging in use of radioactive material, color T.V. receivers

2.5 CHERNOBYL ACCIDENT

Despite the fact that all the nuclear power plants are designed leakage proof, at times contamination still occurs. This has been evident in the case of two major accidents- **Three Mile Island U.S. in 1979** and **Chernobyl in Ukraine in 1986**. Chernobyl occurred during an engineering experiment, when safety systems were bypassed. Huge amounts of radioactive substances and other dust particles were released into the air,

causing large scale contamination. Some 7000k kilograms of radioactive material containing iodine-131, strontium-90, caesium-137 were released during explosion. Effects were seen in Europe and France. Soon after the accidents, the vegetables in the market had certain signs of radioactivity. Animals were giving milk that was radioactive.

2.6 GREEN HOUSE EFFECT AND GLOBAL WARMING

Climate has been affected by irregular concentration of greenhouse gases in the atmosphere like that of oxides of carbon and nitrogen. Further burning of coal, oil, natural gas etc. raises the levels of carbon dioxide leading to increased emissions in the air. Similarly, deforestation also hikes the quantities of noxious gases in the sky. Since 1860, the amount of carbon dioxide (CO_2) has risen up to 30-40% from 280 parts per million (ppm) to 385ppm.

The water vapor and CO_2 of the atmosphere absorb the infra-red radiation and block a large fraction of earth's emitted radiation. This radiation so absorbed is partly re-emitted to the earth's surface. Thus, we have two sources of energy i.e. sun and the one re-emitted from carbon dioxide and water vapor. As a result, the earth is heated up and this is called Green House Effect. This term was first invented by **J. Fourier in 1827.**

Scientists believe that by 2050, there will be a 3% rise in the temperature of the earth due to multiplication in levels of CO_2. Further it is said that 1^o rise in surface temperature can have an adverse effect on the world food production.

A concept related to this is **EL NINO PHENOMENON[51]:** The water in the Eastern pacific region has a temperature of about 10 degrees. But, in every 5-10 years, between the months of December to March, a drastic rise in temperature is seen upto 280^o C i.e. 4^o C higher than the normal. This affects the fish activity and causes enormous disruption of the local environment.

[51] Supra 2

It is normally seen that the trade winds blow in the South West direction (along the equator). When El Nino comes, trade winds divert towards east. Therefore, the warm pacific current starts flowing towards east. On reaching the South American Coast, it affects the environment of that cold region as well. The warmth of the water raises the warm air and creates a low pressure in the region causing rainfall in South America and in Northern California. Its affect is felt in other parts of the world in the form of drought and heavy rain.

In **Centre for Environmental Law World Wide Fund for Nature, India v State of Orissa & others**[52], it was said that the countries are progressing towards development at the expense of nature. Earlier earth was considered to be the mother, but in the present times man has crossed all limits if exploiting nature. In such a case, the emergence of laws relating to the environment find place. These laws look into numerous aspects like preservation, control and improvement in the surroundings of an individual. In addition to this, it was also said that the laws have been enacted years back, some of them have been refashioned as per needs of the hour yet the motive of ensuring harmony between nature and man is still not achieved. India is one such country who has always valued nature ever since the ancient time. Today, the main problem faced by legislature is of identifying the origin of pollution; adopt appropriate measures to minimize it. Since this is of a continuing nature, it calls for public involvement at large.

[52] LAWS(ORI)-1998-5-3

CHAPTER 3- EVOLUTION OF GENERAL PRINCIPLES OF ENVIRONMENTAL POLLUTION: INTERNATIONAL EFFORTS

3.1 UNITED STATES V. CANADA (Trial Smelter)

Ever since sulpher dioxide had been recognized as a pollutant responsible for causing acid rain, every nation was trying to reduce its SO_2 emissions. Here, few emanations of sulpher crossed the Canadian borders and reached the US. It was contended by the US that the releases were affecting its lumber industry. The matter had reached the arbitral tribunal as per which the emissions resulted in an injury[53]. The tribunal said that in order to fix damages, it was necessary to show material damage. In its final decision, the tribunal ordered that any sort of further damage to US should be avoided. A question whether the US domestic law was sufficient in regulating air pollution could not be raised because it was already in consonance with the international law. Unable to find any sort of apt precedents, the tribunal quashed the decision of the US Supreme Court that was based on federal common law of nuisance. The tribunal then concluded that under the principles of international law as well as that of the US, no State is authorized to allow the usage of its territory in a manner so that it causes injury by fumes to other person or to his property.

It further laid down two fundamental principle of international law:

- It is necessary for a state to prove that there has been a material damage and not just mere violation of sovereignty[54].
- The state is held liable for any damage caused by it to another.

3.2 U.K. V. ALBANIA (Corfu Channel Case)

The United States brought in a suit against Albania when two of British warships ran into moored contact mines in the Strait of Corfu and caused loss of life along with other physical damage[55]. Later it was found that Albania had not laid those mines, but the fact

[53] 3 R. Int'l Arb.Awards, at 1924.

[54] For an analysis emphasizmg the limited recovery permitted by the Trail Smelter case, see Rubm, Pollution by Analogy: The Trail Smelter Arbttratwn, 50 OR. L. REv. 259 (1971).

[55] Corfu Channel Case (U.K. v. Albainia), 1949 I.CJ. 4.

that Albania had no knowledge wrt to those mines could not be agreed to. Albania was held responsible and the court said that it was obligatory on the part of Albania to have informed the approaching British warships that mine had been laid inthe Albania territorial waters and there was an imminent danger to them. Such obligations arebased not on the Hague Convention of 1907.

These Cases Have Recognized The Rule Of International Law Which Says That Permitting Extraterritorial Damage From Intrastate Activity Is In And Of Itself Lawful May Render The State Responsible For The Loss Inflicted.

3.3 INTERNATIONAL CONFERENCES

3.3.1 THE U.N. CONFERENCE ON THE HUMAN ENVIRONMENT

It was held from 5 to 16 June in 1972 at Stockholm. The main concern here was **protection of the biosphere** on the official agenda of international policy and law. Its key areas of focus were:

- Properly managing human settlements and maintaining environmental quality
- Management of assets of the earth
- Adjusting the pollution
- Generating awareness in public on environmental issues
- Ensuring progress and environmental safety go hand in hand

Some of the essential principles that have evolved are as follows:

Principle 6: The discharge of toxic material and other harmful substances that have the capability of harming the environment must be brought to a halt. Struggle of all persons against pollution must be encouraged and appreciated.

Principle 7: A state has to take all possible steps that are necessary to lessen the pollution at seashores by ingredients that are hazardous to human health and aquatic life and interfere with lawful usage of the sea.

Principle 14: Any conflict between development and quality of environment can be resolved through rational planning.

Principle 21: States have a sovereign right to exploit their own natural resources in accordance with the Charter of UN and recognized principles of international law. It must also ensure that all the activities being carried out within the territory of that particular state, so that it does not go beyond the local limits of its jurisdiction.

Principle 22: States shall work towards developing the international law on fixing liability and compensation for victims of pollution and other environmental damage caused by activities beyond the jurisdiction of such states.

3.3.2 DECLARATION OF THE UNITED NATIONS CONFERENCE ON HUMAN ENVIRONMENET (THE VIENNA CONVENTION)[56]

This convention came into force on 22 March, 1985 and developed a future plan for protecting the ozone layer. As per principle 21, the states **are allowed to exploit their resources pursuant to their own environmental policies.** In doing so, the states should not go beyond their jurisdictions and cause harm to others.

3.3.3 THE UNITED NATIONS CONFERENCE ON ENVIRONMENT AND DEVELOPMENT

It was held in Rio de Janeiro, Brazil from 3 to 24 June 1992, in which 172 countries from across the globe participated. This conference drew concerns regarding- **Protection of atmosphere, water resources and land, conservation of ecological diversity, management of the environment in such a way so that the after effects of Bhopal Gas Disaster could be brought to an end**. The following have been the key outcomes.

Rio Declaration: This laid emphasis on the fact that the countries should so use their resources that it does not cause any damage to the environment in the other countries. Besides this some other results were as follows:

[56] The United Nations Conference on the Human Environment was held in Stockholm between 5-16 June, 2016. It laid down 26 principles to help nations implementing their environment policies.

- Environmental protection is an essential part of the concept of sustainable development. The states have a right to exploit their resources, but it is their responsibility to ensure that the activities are well within the reach of their own jurisdiction.
- The state shall work in co –operation to conserve, protect and restore the health and integrity of the ecosystem.
- International action in the field of environment and development should primarily have their focus on the developing nations
- Unsustainable patterns of production and consumption should be eliminated by states in order to achieve sustainable development together with higher standards of life.
- All issues relating to environment should be collectively dealt with. At national level, each individual shall have reasonable access to all the information concerning the environment that is held to be with the public authorities, including information on hazardous substances and the activities in their communities, and the opportunity to participate in decision-making process. States shall facilitate and encourage public awareness by making the information readily available.
- The state shall come up with a law as per which liability would be fixed for the damage caused to the surroundings. Further, in order to preserve the environment, the precautionary approach shall be adopted.
- The indigenous communities play a vital role in managing the environment as they have the traditional knowledge, so to attain sustainable development states should ensure full participation from them.
- National authorities should endeavor to promote internalization of environmental costs and the use of economic instruments, taking into account that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting the international trade.

The Convention on Climate Change: The concern to reduce the greenhouse emission, paved way for this convention. The change of the environment is attributed to direct and

indirect human activities. It requires that environmentally sound technologies should be transferred among nations so that less damage is caused to the environment.

The Biodiversity Convention: It took place on 5th June, 1992 in the Earth Summit held at Rio de Janeiro, Brazil. It was signed by 157 nations including India. It came into force in 1993. This convention seeks to evolve a principle of global participation and makes it compulsory for the participating countries to take corrective steps for conservation of plant and animal life. It works towards fulfilling three basic goals: conserving the biological diversity, justifiable use of its components, fair and equitable sharing of benefits arising out of the utilization of genetic resources.

Agenda 21: It is a blueprint that calls for change in all the activities of humans so that all around sustainable development can be achieved. It aims at elimination of poverty and stabilization of human population. The following are the specific proposals that need attention:

- Efficient use of natural resources
- Effective management of pollution and waste product development
- Achievement of basic standard of living for all humanity

3.3.4 THE MONTREAL PROTOCOL

The Montreal protocol on substances depleting the ozone layer came into force on 1st January, 1989. Its objective is to put a check on the usage of CFCs : CFC-11, CFC-12, CFC-113, CFC-114, CFC-119 and other halogen compounds like Halogen 1211, Halogen 1301, and Halogen 2402. This calls on the **states to minimize the ozone producing substances.** Nation states have agreed to switch over to safe alternative substances and technology. As per the **policy statement of its Helsinky Declaration had aimed to reduce the intake of CFCs by the year 2000.** It was said that the discharge of harmful effluents should be stopped, so that the ozone layer can be protected. In 1988, the International Ozone Trends Panel found that there was a huge decline in the stratospheric ozone in the northern hemisphere, thereby indicating that more operative measures were

required. Another major problem was caused by the developing countries who were not ready to reduce their ODS substances. Yet again in 1991, it was realized that a mere control on CFCs and halogens would not be sufficient. So again in 1992, the members met at Copenhagen and this protocol was revised and it was decided that HCFCs could be phased out by 2030.

3.3.5 HAGUE DELARATION OF THE ENVIRONMENT

Declaration of the Hague convention

Since problems like **melting of ice-caps, green-house effect, depletion of ozone layer are common to all, their solutions have to be devised on a global level.** Subsequently, there is a vital need of new principles along with **effective mechanisms** for their **enforcement.** Since different nations have reached up to diverse levels of advancement, the requirement here is of regulatory, supportive and adjustment measures. These actions should bring in more involvement from all countries. A sincere obligation lies on the part of the industrialized nations to assist the developing ones so that negative effects of changes in the atmosphere can be curtailed.

The signatories work towards promoting the following principles:

- Setting up of an institutional consultant within the ambit of the UN structure, either by strengthening the existing institutions or by creating new ones, which shall be duty bound to combat further global warming in the atmosphere and shall involve dynamic decision making procedures.
- For the smooth running of this institutional authority, suitable guidance and full circulation of technological information including instruments, setting up of standards shall be provided upon request.
- The decisions of the new institutional authority will have to be complied with and would be controlled by International Court of Justice
- A mechanism would be developed by which the countries, who are asked to protect the atmosphere, would be given fair and equitable assistance to compensate them for bearing such assistance.

- To have a coherent foundation for all legal principles, negotiation is very necessary.

The Hague Declaration on the Environment was concluded on 11th March, 1989.

3.3.6 KYOTO PROTOCOL TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, 1977

Climate change caused by anthropogenic greenhouse gases has emerged as one of the most important environmental issues facing the international community[57]. It is the human those should be held responsible for increasing the fossil-fuel based carbon emissions. This convention was taken as an **innovation in international climate policy as it promised substantial reduction in emissions, thereby establishing a excavating mechanism for climate protection.** Its aim is to come up with an **emission mitigation strategy that allots the resources in such a way so that maximum net benefits could be attained. Primary focus is on cost-benefit analysis.** Emissions reduction efforts are taken up to the level where the marginal benefit equals the marginal cost[58].

Article 2 of the convention elaborates on tactics for the improving energy efficiency, promoting afforestation and reforestation, increasing consumption of renewable energy, of carbon sequestration technologies and of advanced environmentally sound technologies[59]. It works towards devising methods that help in dropping green-house emissions not controlled by the Montreal Protocol and also in reducing the methane level in production and transport sector.

Article 3 states that the aggregate anthropogenic carbon dioxide emissions listed in annexure A should not exceed the stipulated amount.

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[57]THE KYOTO PROTOCOL: A REVIEW AND PERSPECTIVES by ChristophBöhringer Centre for European Economic Research (ZEW), Mannheim available at ftp://ftp.zew.de/pub/zew-docs/dp/dp0361.pdf

[58]Ibid

[59] Ibid

Annexure A

Green-House Gases:

Carbon Dioxide (CO_2)

Methane (CH_4)

Nitrous Oxide (N_2O)

Hydrofluorocarbons (HFCs)

Perflourocarbons (PFCs)

Sulpher hexafluoride (SF6)

Energy:

Energy Industries

Fuel combustion

Manufacturing and Construction

Transport sector

Emissions from Fuels:

Solid fuels

Oil and Natural Gas

Industrial Processes:

Chemical industry

Metal production

Production of hydrocarbons and sulphur hexafluoride

Article 5 states that Intergovernmental panel on Climate change has come up with certain methods of estimating the anthropogenic releases by sources and removing them from sinks of green-house gases, these shall be used. The Subsidiary Body of Scientific and Technological Advice shall make timely modifications in these methods.

Article 10 calls for co-operation in the field of technical and scientific research so that all uncertainties in the climate system could be efficiently removed. Besides this it also provides for access and transfer of sound environment technologies.

3.3.7 THE GLOBAL JUDGES SYMPOSIUM ON SUSTAINABLE DEVELOPMENT AND ROLE OF LAW

This predominantly focused on **active application and execution of environment laws through prosecutors, public interest litigation groups, civil society, lawyers etc. so that the rights of the public could be secured**. This symposium developed 25 key principles for solidification of jurisprudence on environment. It was the judiciary which was to play a major role in assimilating human values that have been set out in The United Nation's Millennium Development Goals.

3.4 ENVIRONMENTAL LAW: PRINCIPLES & DOCTRINES

3.4.1 THE PREVENTIVE PRINCIPLE

It derives its basis form the maxim that **"prevention is better than cure".** We know that total prevention of pollution is beyond man's reach, therefore it should be controlled at the primary level[60]. Suppose if one plans to start up an industrial power plant and he is aware of the level of pollution that would result from it, such that it would cause an adversative effect on the surroundings, a restriction can be imposed then and there. This embodies within its purview what we call "**Environmental Impact Assessment**". It checks the harmful effects of chemical wastes on the surroundings. On the other hand, this principle is used to keep pollution under limit[61].

The best example here is **Murali Purushothaman v Union of India**[62]in which the court was attempting to establish centers where carbon monoxide levels could be checked and the proper registration of vehicles could be ensured in the state of Kerala. It was

[60] Rosalind Malcolm, A Guidebook to Environmental Law, Sweet & Maxwell, 1994

[61] Air (Prevention and Control of Pollution) Act, 1981 u/s 16(1)(h) lays down standards for the quality of air ; section 22,' No person operating any industrial plant in any pollution control area shall discharge as course as permit to be discharged the commission of any air pollution control area any pollutant in excess of the standards laid down by the state board; section 17 of the Environmental Protection Act, 1986 is more comprehensive than the Air Act

[62] AIR 1993 Ker 297

contended on behalf of the petitioner that it was causing cancer and tuberculosis. The authorities had failed in curbing the emissions and caused air pollution. The Kerala High Court cited examples from US and Europe where "catalytic converters" were fitted within the vehicles. It stated that environmental cleanliness should be focused on and issued following directions:

(1)It is the duty of the government to provide at least one smoke meter and a gas analyzer (or any other approved instrument to measure carbon monoxide and other pollutants) at each district center.

(2) These equipment are to be provided at the earliest possible.

(3) U/s 20 of The Air Pollution Act, mandatory registration of vehicles was necessary within three months of it purchase.

3.4.1.1 ENVIRONMENTAL IMPACT ASSEEEMENT AND THE CASE NARMADA BACHAO ANDOLAN

Environmental Impact Assessment comes into action when wildlife, forest cover, rivers, lakes are threatened with degradation due to massive environmental projects example construction of a power plant or other activities like mining and quarrying. Isn't it the duty of the government to reasonably foresee the impacts which these projects will have on the human and their surroundings??

In **Narmada Bachao Andolan v Union of India**[63]**,**the environmental notification was taken into consideration for the first time. The petitioners alleged that if the height of the dam is raised beyond a reasonable limit, a large area would be submerged due to overflow of water. Rehabilitation of all the people was not possible. This would cause destruction of habitat and their daily life would be affected. The decision was very absurd and so the petitioners had been praying for reassessing the terms of the project.

Majority View

An intricate study was made into the project wherein which several authorizes analyzed the it from various angles. The Central Commission on Water made a technology-cost

[63] AIR 2000 SC 3751

analysis of the project and approved it[64]. The Department of Science and Technology said that further information on treatment of the catchment area, effect on wildlife and health conditions, along with the problem of water logging will have to be studied. The Ministry of Water Resources stated that for a project to be environmentally sound, it should provide for adequate compensation, look into community health aspects, and rehabilitate people. An Environment Management Plan was generated by the Department of Environment, which had to be strictly followed. The majority came to a conclusion that Ministry of Environment and Forests had not given the clearance based on the discussion. There existed a difference in opinion between two important ministries i.e. Ministry of Environment and Forests on one hand and Ministry of Water Resources on the other hand. The two choices were- 1) to wait for the project's completion and then render clearance 2) to provide clearance to a project on a condition that clearance would be granted only if there is a proper system of conducting time to time checks. Thus, finally a Narmada Management Authority was set up that ensured proper implementation of Environment Management Plan, in paripassu with other engineering related works. Approval was finally granted.

Questions Arising From Narmada Case

- *The main doubt/issue in the case was whether the government was competent enough that it could have foreseen the consequences of a major project like this 30 years before its completion?*
- *Just because the tribunal had approved the Sardar Sarovar Project, does it mean that it was actually environmentally benign?*
- *Can the need of something major be felt 30 years ago without having any appropriate knowledge about it?*
- *Was the court empowered to conduct an impact assessment for a project in a manner different from what is stated in the statutes?*
- *Just because the expenses were more than what had been expected, was it feasible to continue the project without taking into account the adverse effect it was having on the locality nearby?*

[64] AIR 2000 SC 3751, p 3789

- *Can a defense that compensation and restoration will go hand in hand with the project be taken?*

3.4.2 THE PRECAUTIONARY PRINCIPLE

It implies that even if there is no scientific evidence available to support a particular story, caution should be taken[65]. Potentially harmful discharges and other pollutants must be controlled even in the absence of specific data concerning it[66].

It involves apprehension of environmental harm and takes up proper measures in selecting less environmentally harmful activity[67]. The simple idea is not to protect health, property and economic interests of the society, but also to protect the environment for its own stake[68]. Rio Conference, principle 15 reaffirmed this. One of the leading case is that of **M.C. Mehta v Union of India**[69], the issue involved pollution caused by brick kilns operating in the Taj Trapezium. Once the National Environmental Engineering Research Institute (NEERI) submitted its report, the SC came up with following preventive measures:

(1) All the licensed brick kilns located within the radius of 20 km distance of Taj Mahal and nearby the Bharatpur Bird Sanctuary were to be closed from 15 August 1996. It was the duty of the state of Uttar Pradesh to render all necessary assistance in relocating the kiln-owners.

(2) Unlicensed brick kilns were to be shut down immediately.

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[65] Report of The United Nations Conference on Environment and Development, General Assembly, 12 August 1992,A/CONF 151/126, vol 1.

[18] "…. Recent White Paper, This Common Inheritance: Britain's Environmental Strategy, adopts a qualified version of this principle when it states that: 'when there are significant risk of damage to the environment, the Government will be prepared to take precautionary action to limit the use of potentially dangerous pollutants, even when the scientific knowledge is not conclusive, if the balance of likely costs and benefits justified it'. Michael Purdue, 'Integrated Pollution Control in the Environment Protection Act 1990: A Coming Age of Environmental Law?', Modern Law Review, No 54, 1991, pp534, 535

[67] Vellore Citizen's Welfare Forum v Union of India AIR 1999 SC 2715, p 2721, per Kuldip Singh J.

[68] Andhra Pradesh Pollution Control Board v MV Nayudu AIR 1999 SC 812, p 820, per M JagannadhaRao

[69] (2001) 9SCC 235

(3) No new licenses were to be issued

Further in Delhi, at many occasions, the SC had intervened to reduce the harmful effects of pollution. One such attempt was to convert diesel vehicles into Compressed Natural Gas Vehicles (CNG). So, in **M.C. Mehta v Union of India[70],** the central government said that even if there was a shortage of CNG vehicles, crude oil should be imported and supplied through refineries in order to manufacture diesel, thereby ensuring less pollution.

In case of **Charan Lal Sahu v Union of India[71]**, precautionary measures were suggested for effectively dealing with the problem of industrial disasters.

The SC in **Andhra Pradesh Pollution Control Board v MV Nayudu[72],** the court said that before facing a harm of irreparable nature, it is better for a person to take all the necessary precautions to prevent that harm.

3.4.3 THE PROXIMITY PRINCIPLE

It says that pollution should be captured at the source itself[73]. Best example in this case is that of the industrial waste that is used to fill the land at low level. This too causes pollution.

3.4.4 THE SUBSIDIARY PRINCIPLE

As per this, the key obligation and decision making should rest with the authorities in the lowest level in the political hierarchy[74].

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[70] AIR 2002 SC 1696

[71] (1990) 1 SCC 613 at 707-708

[72] AIR 1999 SC 812

[73] See the 'Report of The United Nations Conference on Environment and Development', General Assembly, 12 August 1992, A/CONF 151/26, vol 1.

[74] Philippe Sands, 'European Community Environmental Law: Legislation, the European Court of Justice and Common-Interest Groups', Modern Law Review, no 53, 1990, p 685; See also, 'The debate on te

3.4.5 THE POLLUTERS PAY PRINCIPLE

This principle is based on two mechanisms

1) **Compensatory**, as per which the victim must obtain damages for the harm he has suffered because of the pollute
2) **Preventive**, meaning hefty price should be levied on the polluter.

It has four different perspectives:

1) Polluter may be held criminally liable
2) It is the duty of the polluter to make good all the harm inflicted by him
3) Carbon-tax may be imposed on him
4) Polluter may be forced to conserve the environment by the law of the land

The Council of European Communication adopted this principle as budding instrument for preserving environment[75].The Rio Declaration laid stress on incorporating thisprinciple into the municipal laws[76]**.** The Supreme Court of India and the High Courts have relied on this principle in different pronouncements[77].

Maastricht Treaty brought to the forefront the issue of subsidiary. It is the principle of lowest common dominates', UN Home Search, Agenda 21, ch 2.

[75] The council stresses that in the interest of more efficient environmental protection in the context of effectively integrating the environment and economic policy and meeting the fundamental objective of sustainable development, in particular to comply with the "polluter pays principle", it is necessary to back up current environmental regulations, based on command and control approach, with the economic and fiscal instruments aimed at influencing the reason and behavior of consumers, to discharge wasteful and polluting process to promote technologies

[76] Principle 13,' State shall develop national law regarding liability and compensation for the victims of pollution. They shall also co-operate in an expeditious manner to develop international law for fixing liability for adverse effects of environmental damage

[77] Indian Council for Enviro-Legal Action v Union of India 1996 AIR SCW 1069; M.C. Mehta v Kamal Nath (1997) SCC 388

In **Deepak Nitrite Limited v State of Gujarat**[78], it was said that the compensation received by the victim should be in consonance with the harm caused by the polluter.

In **Vineet Kumar Mathur v Union of India**[79], here an alcohol manufacturing company was dumping its run-off into Gomati River. So, the SC ordered for removing of the distillery, but this was not complied with. A fine of rupees five lacks was imposed and had to be paid within 4 months' time. The polluter was held liable.

One of the leading examples is that of **M.C Mehta v Union of India**[80]**,** also known as the Shri Ram Gas Leak Case. On the night of December 5, 1985 Oleum gas had leaked in huge quantities from a Sulphuric Acid plant in the premises of Shri Ram Fertilizers that was densely inhabited and killed a person, thereby causing undue hardships to other laborers. The SC had directed to shut down the manufacturing plant from which chlorine and other gases were continuously leaking as they were not properly maintained. A sum of rupees twenty lacks was awarded as compensation to the victims. In addition to this, rupees fifteen lacks were provided as guarantee by the bank, in case if any gas leakage would take place in the succeeding 3 years. This case lead to the development of the principle of **"absolute liability"** as per which the polluter is absolutely liable for his act accident caused by his act. This principle has no exception like that in case of strict liability.

3.4.6 DOCTRINE OF PUBLIC TRUST

This doctrine imposes a moral obligation on an individual to protect and restore the environment to its original position, once it has been used. The state is the one who holds all the natural resources, which are meant for the enjoyment of man. There are persons who would work towards conserving resources in their pristine forms whereas, there are some others who are under constant pressure of administration, sprouting needs of the society and thus they trespass their own limits of resources exploitation. Now the important task is balance this conflict. As per the law courts, the duty vests with the

[78] (2004) 6 SCC 402

[79] 1996 SCC (1) 119

[80] AIR 1987 SC 1086

legislature. But in the absence of a legislative framework, the executive has no power to relinquish these resources and use them for commercial purposes. These resources can and should be used only in good faith, in public interest and for public use only.

In **MI Builders Pvt Ltd v Radhey Shyam Sahu**[81],there was a contract between the Lucknow Mahapalika and the plaintiffs as per which a shopping palace was to be erected underneath a park. This contract was started without tender, although a major portion of it was completed. The court held it to be against the doctrine of public trust as Mahapalika could not fulfill its duty of being a trustee and maintaining the park.

In **Partha Prati Ghosh v State of West Bengal**[82],the court said that maintaining greenery without compromising with development is challenging task.

In **MP Ramababu v District Forest Officer**[83], the Andhra Pradesh High Court (HC) said that the earth, rivers, lakes and other water bodies are vested with the state in a way that doctrine of public trust is applicable to them. The state has the power to interfere, if anyone pollutes them, even if there is no particular law for that purpose.

In **Intellectual Forum, Thirupati v State of Andhra Pradesh**[84], the court analyzed the doctrine of public trust and said that it nowhere excludes alienation of property. The courts should take a hard look at state interference with the free use of land under public trust. The government can neither use the public property against public purpose nor sell it.

[81] AIR 1999 SC 2468
[82] AIR 2000 Cal 84
[83] AIR 2002 AP 256
[84] AIR 2006 SC 1350

CHAPTER 4- PROTECTION OF ENVIRONMENT: PERSPECTIVE ON INDIAN CONSTITUTION

4 INTRODUCTION

Our Constitution provides for safeguarding of the environment. Specific chapters on fundamental duties and directive principles of state policyvoice for a nationwide pledge to conserve the environment. Judiciary has gone one step further and has strengthened this directive.

In **Tarun Bharat Sangh, Alwar v Union of India**[85], it was held that issues on environment should receive maximum consideration.

After this case, the Supreme Court came up with certain fundamental rules, which have been well recognized by the law courts:

(1) Right to wholesome environment is guaranteed under Article 21 of the Constitution[86].
(2) Laws relating to environment should be strictly enforced[87].
(3) Dearth of man power/staff and lack of funds cannot be taken as a defense by the agencies of the government[88]
(4) It is the duty of the polluter to remedy the harm[89].
(5) In precautionary principle, the onus of proof is on the entrepreneur to show that his act was in consonance with the environment[90].
(6) Any agency pronouncing any decision, must always keep in mind the concept of sustainable development[91].
(7) Any default in dealing with environmental laws must be strictly dealt with[92].

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[85] Popularly known as the Sariska case, Writ Petition (Civil) No. 509 of 1991, Supreme Court, 14 May 1992 (M.N. Venkatachaliah and B.P. Jeevan Reddy, JJ.)
[86] Subhash Kumar v State of Bihar AIR 1991 SC 420; M.C. Mehta v Union of India (Delhi Stone Crushing case) 1992 (3) SCC 256, 257; Virendar Gaur v State of Haryana 1995 (2) SCC 577, 581
[87] Indian Council for Enviro-Legal Action v Union of India 1996 (5) SCC 281, 294, 301
[88] Dr. B.L. Wadera v Union of India (Delhi Garbage Case) AIR 1996 SC 2969, 2976
[89] S Jagannath v Union of India (Shrimp Culture case) AIR 1997 SC 811, 846, 850
[90] Vellore Citizens Welfare Forum v Union of India AIR 1996 SC 2715
[91] State of Himachal Pradesh v Ganesh Wood Products AIR 1996 SC 149
[92] Pratibha Co-operative Housing Society Ltd v State of Maharashtra AIR 1991 SC 1453

(8) The object of law should not be defeated in complying with the environmental standards[93].

(9) All the natural resources are entrusted to state for the welfare of the public, therefore none of them can be privately owned[94].

4.1 DIVISION OF LEGISLATIVE AUTHORITY

4.1.1 POSITION PRIOR TO 42ND AMENDMENT

Ours is a quasi-federal structure and the power is distributed between the Centre and the State governments. Administrative as well as the legal relationship between the states are governed by part XI of the Constitution. Article 246 calls for division of subjects between the Centre and the State. As per List I of the Seventh Schedule, the central government can legislate over interstate rivers, atomic energy and mines and minerals. List II empowers the state government to enact rules relating to agriculture, irrigation, drainage and fisheries.

In the Concurrent list, both state legislatures as well as the parliament share jurisdiction over mineral resources in the union list forests and wildlife, population control and family planning and factories[95].

Parliament has the power to legislate on subjects that are not given in any of the three lists[96]. It is also empowered to legislate in the national interest on matters enumerated in the State List[97]. Besides this, the Parliament also has power to make laws on subjects contained in the state list. Water (Prevention and Control of Pollution) is its best example- this had been enacted by the legislature, after receiving permission from the respect states. It is suitable to come up with an authority for such environmental protection laws, so local level problems like public health,

[93] Bangalore Medical Trust v B.S Muddappa AIR 1991 SC 1902, 1911
[94] M.C. Mehta v Union of India 1997 (1) SCC 388; MI Builders v RadheyShyamSahu AIR 1999 SC 2468
[95] SHYAM DIVAN &ARMIN ROSENCRANZ, ENVIRONMENTAL LAW AND POLICY IN INDIA, Materials and Statutes, (2nd ed)
[96] Article 248
[97] Article 249

sanitationand disposal of waste; national level problems like protection of wildlife and pollution can be best resolved by appointing such authorities.

It was only Article 47 of the Directive Principles that stressed on the duty of the to improveand enhance the level of nutrient and standard of living of the people, thereby improving their public health. Further Article 21 came in support and said that no person shall be deprived of his life or personal liberty except according to the procedure established by law[98].

4.1.2 POSITION AFTER THE 42ND AMENDMENT

The amendment of 1976, formed a new section 48 A, which was added in the directive principles. As per this, conservation and upkeep of forest cover and wildlife was the duty of the state.

A chapter on "Fundamental Duties", Article 51A(g) was further incorporated. This had a multifold objective 1) Action on the state's part to protect the environment 2) Responsibility of a national towards the environment.

Rajasthan High Court in **L.K. Koolwal v State of Rajasthan**[99], interpreted Article 51A(g) and said that "municipal agencies have a duty to keep the public passage and other sewers clean and free from dust, rubbish, garbage and take all possible steps to ensure that no restriction is caused in public enjoyment, when they use public services". It was alleged on behalf of the plaintiff that the municipality could not control the discharge of obnoxious substances leading to sanitation problems in the area. The HC explained that Article 51A was a blessing for the environment but its profits could be enjoyed only if public realizes its duty towards the environment.

A conjoint reading of Article 51A(g) & (j) was asked and the following analysis was drawn that an individual should make every possible effort and work with his community, so that he can attain highest level of achievements.

[98] Dr. H.N.Tiwari, ENVIRONMENTAL LAW, Allahabad Law Agency, Reprint 2007
[99] AIR 1998 Raj 2

In **Sachidanand Pandey v State of West Bengal**[100], it was held that when the SC has to decide a matter of policy, it has the power to pass necessary directs as per the requirements of a particular case. In doing so, it is up to the court to accept or decline any decision passed by an authority whose word is relevant in this matter.

The Andhra Pradesh High Court, in case of **T. Damodar Rao v The Special Officer, Municipal Corporation of Hyderabad**[101], interpreted Article 48Aimposing an obligation on the law courts and other governments to protect the environment.

4.2 ENVIRONMENTAL LAW &JUDICIAL VITALITY

In **Murali S. Deora v Union of India**[102], the court made an interpretation into Article 21 and said that "smoking corresponds to a public threat. The non-smokers health should not be affected by an action of an active smoker when they come in contact with the smoker in public places". The court issued an order directing both central and state governments that smoking should be immediately prohibited in courts, medical and education centres, public premises and during travel in public means of transport.

The judgment of the SC in **Ratlam Municipality v Virdhi Chand**[103], has set up a benchmark in the field of judicial dynamism involving cases of environmental pollution. Ratlam Municipality had been accused of failing to maintain a waste water stream passing through the New Road. The pits and other drains were not properly covered due to which dirty water was overflowing on the road leading to breeding of flies. This caused malaria. The nearby slum occupants were using the drains for toilet purposes. All of this lead to a lot of nuisance, but no heed was paid to by the concerned authorities. The matter was brought to the knowledge of Town Improvement Trust and the municipality, but all in vain. So, then the local people of the area requested the Sub-divisional Magistrate to initiate an action u/s 133 of the

[100] AIR 1987 SC 1109, 1114-15
[101] AIR 1987 AP 171, 181
[102] AIR 2002 S.C. 40
[103] AIR 1980 SC 1622

Code of Criminal Procedure and order removal of filth and construction of proper drains. Case was decided in the favor of the locals, but was declared baseless by the District Court. The High Court again reversed the District Court's finding and told the municipality to come up with a management plan for discharging of dirty water. Dissatisfied with the order, the municipality went in an appeal to the SC. The SC upheld the holding of the HC and ordered both the state government as well as the municipality to minimize the pollution resulting from the alcohol plant.

In **Dattaraya v Gopisa**[104], the respondent had constructed a latrine which was emitting foul smell on a continuous basis, thereby causing a lot of inconvenience in the nearby surroundings. The HC of Nagpur asked the experts of sanitation services to inspect the premises and submit a report. It was found that the condition was miserable and an immediate demolition was ordered keeping in mind the amount of health consequences to which people of that area were exposed to.

In case of **Om Govind Singh v Shanti Swarup**[105], the bakery chimney was emitting harmful smell; thereby affecting the people is close by areas. There were also complains that it caused contraction of the respiratory trap. The court ordered for its closure as it lead to pollution.

4.3 ARTICLE 253 AND THE LEGISLATION ON ENVIRONMENT

An addition was made in the concurrent list by adding **"Population Control and Family Planning"** while shifting **"Forests and Protection of Wildlife and Birds"** to list III from list II. The Parliament of India under Article 253 is vested with the power of formulating laws so that all international decisions and treaties are respected.

Also a reading of **Article 253 with Entry 13 of the Union List** tells that the Parliament has the power to make laws with respect to any entry in the State List.

[104] AIR 1927 Nag 236
[105] AIR 1979 SC 143

4.4 ENVIRONMENTAL REGULATIONS AND FUNDAMENTAL RIGHTS

4.4.1 RIGHT TO WHOLESOME ENVIRONMENT

After the emergency, the scope of Article 21 was expanded and it started including environmental protection within its ambit[106]**.** The SC adopted two measures by which Article 21 could be strengthened 1) It was required to pass the test of Article 14 and 19 of the Constitution[107], thus warranting that the manner in which one is being deprived of his life and personal liberty, should be just, fair and reasonable[108] 2) The court has accepted some unspoken freedoms to include within Article 21, right to wholesome environment is one such.

In **Rural Entitlement Litigation Kendra (RELK), Dehradun v State of Uttar Pradesh**[109], it was purported that the illegal mining activities in the higher hills of Mussoorie-Dehradun region were affecting the smooth functioning of the ecosystem. So, RELK has filed a writ under Article 32 so that injunction could be prayed for. The Government of Uttar Pradesh as well as the state collector was summoned regarding the matter, but nothing was done to stop the mining and quarrying activities. Five interim orders were passed in a total period of eight years. But nothing could happen.

The HC of Andhra Pradesh, in the case of **T. Damodar Rao v The Special Officer**[110], Municipal Corporation of Hyderabad elaborated on the connection of fundamental rights with the right to enjoy unpolluted air and said that "pollution is like a slow poison that affects the quality of enjoyment of an individual. Right to life includes right to peacefully enjoy one's surroundings. So this polluted air of the atmosphere does not allow man to be in harmony with his surroundings, thereby affecting his right to life".

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[106] Article 21 states: "No person shall be deprived of his life or personal liberty except according to the procedure established b by law"

[107] Maneka Gandhi v Union of India AIR 1978 SC 597. Article 14 provides for right of equality before law and protects a person against or unreasonable state action. Article 19 enumerates certain fundamental rights, such as the right to freedom of speech and expression and the right to form associations.

[108] Francis Coralie Mullin v The Administrator, Union Territory AIR 1981 SC 746

[109] AIR 1988 SC 2187

[110] AIR 1987 SC 171

Then in **Subhash Kumar v State of Bihar**[111], Tata Iron & Steel Company had been discharging liquid wastes in the nearby Bokaro River. These entered into the human body through the process of bio magnification. Besides this, a carbon layer covered the land making it unfit for cultivation. Fertility of the soil was also affected. The plaintiff had made several requests to the Bihar State Pollution Control Board but no remedy was received. On behalf of the Board, it was contented that they were continuously tracing the amount of effluents being washed off into the river. The company had also been directed to set up two chambers where waste could be treated. The following observations were made by the court that right to enjoyment of unpolluted air and water is contained within the ambit of right to life. Recourse of Article 32 could be taken if it causes a threat to the quality of life.

In **Consumer Education & Research Centre v Union of India**[112], the SC said that "protecting health and forte of industrial workers is an important facet of right to life. It is the duty of every industry to look into the welfare of its staff members, workers and provide them with all necessary facilities to work during their period of employment". The court also came up with some guidelines for the asbestos industry, which as follows:

- The workers in these industries must have a health insurance.
- Occupational health hazard victims must be compensated with rupees one lakh.
- Records of all workers working in the factory must be made on a regular basis and up to a minimum term of 40 years during the service and 15 years after the employment
- Proper membrane filters should be used to detect the fiber of the asbestos

In **Kirlosker Brothers Ltd. V Employees State Insurance Corporation**[113], it was held that the workers should not be subjected to more than permissible limits of exposure in case when they are working in asbestos factories. These limits should be

[111] AIR 1991 SC 420
[112] (1995) 3 SCC 42
[113] 1996 (2) SCC 682

fixed in consonance with that of the International Labor Organization and are to be reviewed once in every ten years.

In **Kinkri Devi v State of U.P**[114], it was said that any sort of uncontrolled and spontaneous limestone quarrying activity in the Shivalik Range that causes damage to the ecosystem and the environment should be severely dealt with.

In the **Taj Trapezium case**[115], Chemical factories/refineries at Narora in Mathura were emitting a high level of quantities of sulpher contents, which when came in contact with oxygen of the atmosphere, formed sulphuric acid in presence of moisture. Now, this was falling in the form of acid rain on the earth. The vehicular traffic in the region caused rampant pollution of the Taj and was also changing its color. So, a petition was filed by M.C. Mehta, who made a sincere request to the court to issue orders so that pollution caused by degrading quality of air could be reduced. The court while delivering its judgment brought in precautionary and polluters pay principles and considered them to be an important ingredient of law. As per the court, the burden was on the foundries to prove that their act was in consonance with the environmental standards. So, there was no doubt that the purity of air was degraded. In its further directions, the court said that all the industries must be shut down. Substitute like natural gas should be resorted to than use of coke/coal. Those units which are to be relocated would be provided some incentives. It was said that the laborers would be given six years wages in advance.

The Kerela High Court **in Attakoya Thangal v Union of India**[116], while pronouncing its judgment, the HC said that for an individual's right to life, it is must that he should have access to clean water and fresh air.

In the case of **Essar Oil Ltd. v. Halar Utkarsh Samiti & Others**[117], the Supreme Court maintained a delicate equilibrium between development and environmental protection and held that: 'Certain principles have been included in the Stockholm

[114] AIR 1988 H.P. 4
[115] M.C. Mehta v Union of India AIR 1997 SC 734
[116] 1990 K.L.T.580
[117] 2004 SC 1834

Declaration which give broad parameters, guidelines for sustaining humanity and environment. Of these, a few extract relevant debates.

Principle number two says that natural resources like the air, water, land, flora and fauna should be safeguarded for the benefit of present and future generations by careful planning and management. The fourth principle elucidates that human has the special duty of safeguarding and wisely managing the treasure of wild life and their habitat which are now highly endangered by a human factors. Conservation of nature including wild life must, receive importance in planning for developments.

4.4.2 RIGHT TO LIVELIHOOD

If a developmental activity is posing a threat of human displacementand affecting the daily routine of the people of that area**,** remedy can be sought by bringing an action under infringement of the fundamental right of life- right to livelihood. Displacement of people in India has been up to 16 million[118].

In **Olga Tellis v Bombay Municipal Corporation[119],** a government arrangement of removing the ones living in the footpath was challenged by a journalist and two others. The main contention of the plaintiff's was right to earn/income is contained within the right to life. Just in case the street dwellers are removed from their shantytowns, their removal would amount to eviction and would thus deny them their right to life. The court decided in favor of the petitioner and said that if any person is deprived of his living/livelihood, he can bring action under Article 21 because he has not been accorded just and reasonable procedure that is established by the law of a country. The court further asked the municipal corporation to settle the slum dwellers elsewhere in the nearby area.

[118] World Bank, Resettlement & Development 2/11 (1994)
[119] AIR 1986 SC 180

In **Banawasi Seva Ashram v State of Uttar Pradesh**[120],The National Thermal Power Corporation Limited (NTPC), had been removing some forest dwellers from their own land because they required land for Rihand Super Thermal Power Project. The court allowed removal of these people provided, they could be settled elsewhere.

In **Abhilash Textile v Rajkot Municipal Corporation**[121], there were 165 people in different places at Rajkot who were working in cloth dyeing and design printing units, legal notices were issued to them to close their activities as this lead to discharge of filthy water onto the roads. Public health at large was being affected. They were given an ultimatum of a weak. It was contented on behalf of the petitioners that they had been carrying designing units for more than 25 years and if these units are closed, it would affect the livelihood of many. They requested for an opportunity to be heard.

In **Maneka Gandhi v Union of India**[122], as per Article 19(1)(g) "every national has a right to carry out any trade and occupation according to his own free will. Restrictions to this fundamental right can be imposed only if they are suitable and are hindering the welfare of the public".

4.4.3 RIGHT OT EQUALITY

It has been seen that many government decisions have affected the right to equality assured under Article 14[123]**.**Article 14 hits and opposes an action that is of an arbitrary nature, thus denies equality before law[124]**.**At times, the government gives

[120]AIR 1987 SC 374. In course of its order, the court observed that the tribals "for generations had been using the jungles around for collecting the requirements for their livelihood—fruit, vegetables, fodder, flower, timber, animals by way of sport and fuelwood." Although not explicitly referred to in the order, Article 21 and the right to livelihood were impliedly relied on by the court.

[121] AIR 1988 Guj. 57

[122] AIR 1978 SC 597

[123] Article 14 States:''State shall not deny to any person equality before law or equal protection of laws within the territory of India".

[124] Ajay Hasia v Khalid MujibShervardi AIR 1981 SC 487

authorization to a project without much looking into the forthcoming consequences it would have on the nature, in such cases, Article 14 can be invoked[125].

In **State of Himachal Pradesh v Ganesh Wood Products**[126], it was held that while pronouncing a decision, the authority should keep in mind the concept of judicious use of resources as well as the conservation policy of the government.

4.5 *WHETHER ARTICLES 14 & 21 PROVIDE FOR INTERGENERATIONAL EQUITY??*

As per the theory of Intergenerational Equity, people of all age groups have a right to imbibe certain traditional resources of nature by default and enjoy their profits. It means protection and consumption of natural resources in such a manner that they are left in adequate quantities for the future generate also. So, the prominent question that arises is that whether this right can be exercise in case of monuments of historical importance, if they are being threatened by any sought of action on the part of the government authorities?

In Ganesh Wood Products case, Indian Council for Enviro-Legal Action's case, is has been held that the burden of degrading environment must be borne by the legal statues and the resources should be saved for next generations.

[125] Kinkri Devi v State of Himanchal Pradesh AIR 1988 HP 4, 9.
[126] AIR 1996 SC 149

CHAPTER 5- ENVIRONMEMENT CONSERVATION IN INDIA: STATUTORY DEVELOPMENTS

5.1 ENVIRONMENTAL LEGISLATIONS AND POLICIES IN INDIA

Any guideline that is drafted for the purpose of being followed by the executers while implementing their decisions is termed as a policy. It is an instrument of bringing transformation in the society. A policy helps us to identify the difficulties, prioritizing methods and approaches so that solutions can be reached. It assists in articulating choices so that expressed goals can be fulfilled and therefore a proper organization is must for its effective implementation.

Environmental conservation has always been a priority in India. In the earlier days the policies with regard to the environment were not only efficient and effectual, but there also existed a sense of responsibility among the people to protect the environment. Today, we have about 500-600 environmental legislations which are a forced result of the widespread industrialization and globalization. These statues have been made both at central as well as at state level.

5.1.1 ENVIRONMENTALPOLICIES AND LAWS IN ANCIENT INDIA

Ancient India derives its basis for environmental protection from the Veda's. Conservation was solely based on faith. Among the Hindus birds, animals, land and forests were protected and felling of trees was strictly prohibited. People, who did not obey the laws of nature, were held liable. Preventing pollution of rivers, streams, lake were considered to be the moral duties of man. He imbibed them from his ancestors. Both, the common man as well as the rulers were bound by the ethics of nature. It was believed that worship of nature was worship to God.

5.1.2 ENVIRONMENTALPOLICIES AND LAWS IN MEDIVIEL INDIA

The Mughal Ruler, Akbar had made many endeavors during his reign to prevent needless hunting of birds and animals.

5.1.3 ENVIRONMENATAL POLICIES AND LAWS IN BRITISH INDIA

With the coming in of the British, came in a system for organized forest management. The problem of water pollution, conservation of forests areas and wildlife in particular caught their attention. The very first enactment in this regard was The Forest Act of 1865, which provided a right to the state to exercise monopoly over the forests. The Bengal Regulation VI of 1819 provided the right to the government to acclaim sovereignty over their natural resources. As per this, resources of nature belonged to everyone living on earth. They were thus termed as 'common property' of all. The Merchant and Shipping Act which was enacted in 1858, dealt with preventing pollution of sea by oil. In 1860, a serious attempt was made to control the pollution caused by water and air through a mechanism of imposing criminal sanctions.

5.2 ENVIRONMENTAL LEGISLATION PRE-INDEPENDENCE

Chapter XIV of the Indian Penal Code, 1860 deals with **offences affecting public health, safety, convenience, decency and morals**[127]. Section **268** talks about **public nuisance** and reads as follows ***"an individual who by his act of illegal nature does anything which causes injury to people at large, endanger or annoys them or obstructs any person from using his public right, is said to cause public nuisance***[128]***"***.

Sections 269 & 270 of the code, deals with careless and malignant acts that help in spreading infection or disease which poses a risk to human life. In such a case, if the person knowingly commits such act, his act shall be punishable with an imprisonment of six months and two years respectively, along with an additional fine[129]**.**

Section 277 mentions that, whosoever, at his own will contaminates or pollutes the water of any open spring or reservoir, so as make it unfit for drinking purposes, would be punished with imprisonment which may extend to 3 months, or with a fine which may extend to Rs.500, or with both[130]**.**

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[127] The Indian Penal Code, 1860
[128] Ibid
[129] Supra 110
[130] Supra 110

Section 278 states that that, if a person willingly pollutes the atmosphere in order to make it poisonous for the human health, so that it becomes difficult for others to live or to carry on business in the neighborhood or use a public passage, shall be punished with fine which may extent to Rs.500[131].

Sections 284,285 &286 of the code deal with negligent conduct with respect to poisonous substances, combustible matter and explosive substances[132]**.**

5.3 ENVIRONMENTAL LEGISLATIONS POST-INDEPENDENCE

5.3.1 AIR (POLLUTION AND CONTROL OF POLLUTION) ACT, 1981

In the Stockholm conference held in 1972, India had promised to take adequate steps for the conserving the natural resources present on the earth's crust, including the quality of air present in its atmosphere. This act calls for establishing of central and state pollution control boards (CPCB & SPCB) various authorities those would assist in controlling and abating air pollution.

The Central Pollution Control Board is entrusted with the following functions **u/s 16**:

- To aid and assist the central government in improving the air quality, thus preventing and controlling it from being polluted.
- To implement and execute a countrywide programme for conserving the air quality.
- To render all necessary technical assistance to the respective state boards, so that they can conduct an in depth research of all problems in relation to the environment.
- To settle all disputes arising between the state boards.
- To come up with appropriate parameters for quality of air
- To gather, assemble and carry forward all relevant information on air pollution

[131] Supra 110
[132] Supra 110

- To set up laboratories, prepare manuals, codes and other guidelines relating to control of pollution

U/s 19 of the act, the state government, in consultation with the State Board, has the power to alter the limits of any locality, declare that locality as new air pollution control area and if it is of the opinion that any fuel is causing air pollution, it may ban the usage of that fuel.

U/s 20 of the act, the state board acts as an instructor and orders the motor vehicle registration authority to ensure the standards of emissions from the vehicular exhausts.

U/s 21 of the act, the state board can restrict using of industrial plants in any air pollution control area, until a prescribed fee is paid.

U/s 24, the board empowers any person on its behalf to enter, inspect and take samples from any premises.

Section 37 calls for penalties for failure to comply with section 21 and 22, shall be imprisoned for a minimum one year and six months and which may extend up to six years along with a fine. An additional amount of rupees five thousand may be imposed on a per day basis, if the failure continues.

5.3.2 WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974

This act calls for setting up central as well as state pollution control board for controlling and preventing pollution of water. Besides this, it also aims to maintain and restore the quality of wholesome water.

The Central Pollution Control Board is entrusted with the following functions **u/s 16**:

- It is the duty of the central government to guide state government on problems regarding water pollution and its control
- Renderall technical assistance that would help in coming up with new economically viable methods for setting up a sewage treatment plant

- To organize training of personnel who are engaged in the task of controlling water pollution
- To keep update all the manual records, codes or guide books for treating & disposing of waste sewage &other harmful effluents
- To compile & publish of all relevant technical & statistical data relating to water pollution
- Set up laboratories for analyzing the amount of waste and dirty water along with trade effluent samples

U/s 21 of the act, the state board may empower any person on its behalf to enter, inspect and take samples from any premises.

U/s 22, the state board may appoint an analyst who shall analyze the samples which have been taken from any sewage plant and then submit a report. The concerned board may then send the copy of such report to the one who is in the possession of the premise and the second copy shall be kept for the purpose of producing it in the court as and when required. When the sample has been taken from an industry for analyzing purposes, the government analysis will analyze that sample and shall submit a report in triplicate to the concerned board. In cases of any conflict or discrepancy between the report submitted by the laboratory and those u/s 51/52, the report of the latter shall be final.

Section 23 provides for the power of entry and inspection or to inspect any plant, register, document or any other object of material nature.

Section 24 says that no individual shall voluntarily cause or allow any kind of toxic substance to be washed off into the stream. Besides this, no one shall willingly obstruct the natural flow of water in any stream in a way that causes alleviation in the level of pollution.

Besides this, there is also a restriction imposed on bringing into use new outlets and harmful discharges that further aggravation pollution.

Penalty provisions are exactly similar to those mentioned in the air act.

5.3.3 THE ENVIRONMENET PROTECTION ACT, 1986

It is an all-inclusive legislation that deals with different categories of pollutions like air, water, soil, together with ways and means of handling and transporting hazardous materials, their storage etc. After the massive loss of the1986 i.e. the Bhopal Gas,this act came into being. Its primary focus is to safeguard the environment and make the earth a comfortable place to live in. This act gives us a proper understanding of what is it that constitutes environment, what are the reasons behind the degrading quality of our surrounding, how pollution affects the normal cycle of nature and what are its consequences on human beings. It is the central government who has been vested with all the powers regarding administering the control over this act.

The following are the powers of the central government **u/s 3** of the act:

- To come up with an environmental programme at the national level and properly implement it.
- To set up criteria's for checking the quality of air , water , soil in various areas
- To lay down the safety precautions that are to be taken while the hazardous substances are being handled
- To separate out industrialized areas from non-industrialized areas
- It also has the power to enter any premise or a manufacturing plant, or a process unit for the purpose of inspection and then give suitable directions to control pollution

Besides this, the following are the functions of the state government:

- To establish industries that focus on recycling and reuse of waste materials and brings bio-mass and bio-gas into use
- Ensure that the industries are bringing clean technologies into use, so that waste is minimized and there is an increase in the fuel generation capacity
- It has the power to take suitable actions against anybody who is discharging more than the prescribed quantities of effluents.

Section 15(1) of the act provides for penalty provisions:

- Any person who violates any of the provision shall be imprisoned for a 5 years and will have to pay a fine of rupees one lack. In case if the contravention continues, then an additional fine of rupees five thousand would be imposed on a daily basis
- Just in case section 15(1) is not complied with up to a period of one year, then the imprisonment would extend up to 7 years.

This act had been last amended in the year**1994**, as per which the following have to be complied with:

- Environmental Impact assessment (EIA) for various projects undertaken by the industries is a must and for that purpose, a clearance has to be taken from the respective state pollution control boards
- This approval would be obtained only when the assessment report has been duly submitted, the risk has been analyzed and there has been no objection raised to the project by the board (in such a case, no objection certificate would be issued)
- Besides this, basic requirements of submitting a project report along with a questionnaire have to be complied with

The following are the limitations involved in the act:

- Since the state government has been given very less powers, effective implementation of the act is a biggest challenge as the central agencies find it very difficult to set up a check mechanism on illegal mining activities.
- The penalty prescribed by the act is very less when it comes to punishing the big industries
- Usually politicians dominance is seen as many a times they become the chairman of the boards
- Filing of petitions is time consuming
- Time delay to file a petition against any pollution activities
- Establishment of an Effluent Treatment Plant (ETP) is very costly for small scale industries

5.3.4 THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000

Noise is any sound that is unwanted and creates irritation in the ear. loud sound coming from industrial units, power plants, cultural events, public address system, burning of crackers other vehicular exhausts affects the humans both physiologically and psychologically. Therefore a need is felt to keep these sounds at their minimum levels. For this purpose, the Ministry of Environment and Forests (MoEF) came up with a notification in 1999. This notification finally came into force in 2000.

Section 3 of the rules fixes a responsibility on the state government with respect to the ambient quality of air so that pollution is kept at minimum levels. For this purpose, the areas will have to be categorized in industrial towns, commercial units and residential premises. It shall be the duty of every authority who wishes to undertake a developmental activity to adhere to the parameters prescribed by the state government. An area within the reach of 100 meters from any court, hospital or educational institution will be declared as a silence zone.

Section 5 prohibits the use of loud speakers unless a written permission has been obtained. No communication system shall be used in open during the night. If the state government wants, it can give exemption (only for 15 days) for using loud speaker during night hours between 10 pm to 12 midnight for any cultural event or religious ceremony. The noise for any public place shall not exceed 10 dB(A).

Section 5A prohibits the use of any equipment that generates loud noise and calls for controlling fireworks. It says that during the night time, no horns shall be brought into use. Crackers that emit large sound and pose a threat of rupturing the eardrum are not to be used in silence zones.

5.3.5 HAZARDOUS WASTES (MANAGEMENT & HANDLING) RULES, 1989

Section 2 of the act highlights the responsibility of the resident of a premise to take all necessary precautions when he is dealing with any material of chemical nature that may pose danger to others.

U/s 3, 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 1to 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 State Pollution Control Board in Form 1for the grant of authorization within a period of six months from the date of commencement of these rules[133]. The board shall issue a license only when it is satisfied.

U/s 4, the license can be suspended or even cancelled if the one who has been granted the license makes a default in compliance with the rules of the act.

5.3.6 THE BIODIVERSITY ACT, 2002

India is home to different varieties of species, organisms' plants and bird that depict its rich biodiversity. This enactment has been brought into force keeping in mind that the current day activities of man are posing a serious threat to the biological diversity. Activities like rampant deforestation, degradation of natural habitat, mining and quarrying activities are at pace and the brunt of this is being suffered by the living organisms. The act calls for conservation biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith[134].

U/s 8, a National Biodiversity Authority has been established by the central government, who shall be a body corporate and its office shall be located in Chennai. It shall have a chairperson that would be appointed by the central government, three ex-officio members also appointed by the Central Government, one representing the Ministry dealing with Tribal Affairs and two representing the Ministry dealing with Environment and Forests of

[133] Section 3 of Hazardous Wastes (Management & Handling) Rules, 1989

[134] THE BIOLOGICAL DIVERSITY ACT, 2002, MINISTRY OF LAW AND JUSTICE (Legislative Department)

whom one shall be the Additional Director General of Forests or the Director General of Forests[135]

Besides this, there shall be seven ex officio members appointed by the Central Government to represent respectively the Ministries of the Central Government dealing with –

(i) Agricultural Research and Education;

(ii) Biotechnology;

(iii) Ocean Development;

(iv) Agriculture and Cooperation;

(v) Indian Systems of Medicine and Homoeopathy;

(vi) Science and Technology;

(vii) Scientific and Industrial Research;

And five non-official members to be appointed from amongst specialists and scientists having special knowledge of, or experience in, matters relating to conservation of biological diversity, sustainable use of biological resources and equitable sharing of benefits arising out of the use of biological resources, representatives of industry, conservers, creators and know ledge-holders of biological resources[136].

5.3.7 THE NATIONAL GREEN TRIBUNAL ACT, 2010

The main objective of enacting this legislation was look whether the International obligations arising out of various decisions taken at International Conferences to which India has been a Party, are being implemented or not[137]. Besides this, its main focus was to examine that the judgments of the courts that the right to healthy environment is a part of the right to life under Article 21 of the Indian Constitution are being treated as a precedent or not[138].

The preamble of the act reads as ***"to provide for the establishment of a National Green Tribunal for the effective and expeditious disposal of cases relating to environmental***

[135] Supra 117
[136] Supra 117
[137] Aruna B Venkat, THE NATIONAL GREEN TRIBUNAL ACT, 2010: AN OVERVIEW
[138] Supra 120

protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto"[139].

The purpose of the act is to set up environmental tribunals[140] with five benches located in different parts of India[141].The power to hear initial complaints[142] as well as appeals from decisions of authorities under various environmental laws[143] has been granted to the tribunal. Principles of natural justice can be used by it while delivering its judgments[144]. Besides this, the tribunal will have the powers of a civil court under the code of civil procedure[145] and all its decisions would be binding on the parties[146].

Green Tribunal is duty bound to obey and apply the universally accepted and countrywide applied environmental law principles like those of sustainable development, Precautionary and polluter pays principle while issuing any order, decision or award[147]. While the Act envisages the conferment of wide jurisdiction on the Green Tribunal, it also, at the same time, seeks to restrict the scope of its jurisdiction only to matters involving substantial, questions, relating environment[148].

The expression a **"substantial question"** has been defined as an instance where there is a direct violation of specific environmental obligation affecting either the community at large other than an individual or group of individuals by its environmental consequence or where the gravity of the damage to the environment or property is substantial or where the damage to public health is broadly measurable[149].

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[139] The National Green Tribunal Act, 2010
[140] Sections 3 and 4 of the National Green Tribunal Act, 2010.
[141] Jairam Ramesh, Union Minister of State for Environment and Forests told RajyaSabhathat the tribunals principal bench will beat Bhopal, Times of India, May 6, 2010.
[142] Sections 14 and 15, the National Green Tribunal Act, 2010
[143] Ibid , Section 16
[144] Ibid, section 19(1)
[145] Ibid, section 19(4)
[146] Section 24
[147] Section 20
[148] Section 14(1)
[149] Section 14(4)

5.4 SOME RECENT EXAMPLES OF POLLUTION

5.4.1 POLLUTION IN RIVER GANGA

River Ganga flows through 5 states, namely, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal. There are many hydel power projects on its banks, discharging high levels of toxic-chemical chemicals, left over from agriculture and other hazardous wastes are thrown freely into it. Ganga is worshipped as mother among the Hindus. But today it has become a mixture of unjustified effluents. It found place among the world's top five polluted rivers in 2007[150].

A study of 2011, conducted by the Uttarakhand Environment Protection and Pollution Control Board (UEPPCB) has categorized Ganga into 4 criteria's 1) for drinking purposes 2)for cleaning and 3) agriculture 4) causing pollution. There is a high presence of coliform bacteria in water, which is very dangerous to human health. The current level of coliform in the Ganga at Haridwar is 5,500 mpn/100 ml, which is very alarming. The reasons behind this high level of coliform are the disposal of human faeces, urine and sewage that is directly dumped into the river from Gaumukh till it reaches Haridwar[151]. Close to 89 million liters per day (mld) of sewage is released into the river from 12 municipal towns that fall along its route[152].

Senior scientist at Central Pollution Control Board (CPCB), D.D.Basu says: "***Further downstream from Haridwar, the water is not fit for drinking, bathing or any other use"***[153]

The toxic nature of the river is seen as soon as it reaches the industrial city of Kanpur. Total sewage capacity of Kanpur is 280 mld out of which, it can treat only 117 mld. In terms of Rakesh Jaiswal, an environmental activist, "***the first common effluent treatment plant (CETP) which was commissioned in 1994 has a capacity to treat only 9 mld, whereas the tannery effluent discharge is 40 mld"***[154]**.** Chrome liquor, a chemical used in tanning is said to contain chromium, a carcinogen, also gets washed into the river. Although a treatment plant had been set up in 2005, the desired result could not be

[150] BrijeshPandey ,Ganga Polluted, CLIMATE HIMALAYA , 31 January, 2013
[151] Supra 133
[152] Supra 133
[153] Supra 133
[154] Supra 133

attained. ***"The reason being that many industrial units don't send their waste water for treatment, whereas the plant can treat 70,000 liters daily,"***[155] says Jaiswal.

In 2011, a two-judge Bench of the Allahabad High Court had directed all the tanneries to be closed. The responsibility of treating the water should lie on the government as well as on the industries. ***"Somebody who is polluting the Ganga should also clean it,"***[156] says Jaiswal. The three sewage treatment plants have not been working properly over the past three years. Since Ganga is the scared river of Hindu's, ashes of human corpse are also discharged here, thinking that the departed soul would attain salvation. For this purpose, some flesh-eating turtles were released, but this did not prove to be affective.

According to BD Tripathi, member, National Ganga River Basin Authority (NGRBA), **"*A little more imagination was required. Here, turtles were released, but there was no effort to ensure that they survived. As a result, most of the turtles were poached by fishermen or killed."***[157]

Ganga is highly polluted when it reaches Kolkata, specifically in the Dakshineswar Ghat and the Kali Ghat has turned it into a sewer channel. The dolphins in Ganga have become extinct due to sewage discharges into river Hooghly. Hilsa, a popular fish of Bengal, is no longer found. Besides this, the life of the Gangetic dolphins is also threatened by Bhagalpur dam. As per Sunil Chaudhary, an environmentalist says ***"We are working on dolphin conservation, and one cannot do it without saving the Ganga. Every being requires a minimum flow of the river to stay alive."***[158]

In Bihar, raw sewage and industrial waste, agricultural run-offs are the major pollutants of Ganga. It contains residues of chemical fertilizers, pesticides, insecticides and weedicides, which enter the river waters[159]**.**

[155] Spura 133
[156] Supra 133
[157] Supra 133
[158] Supra 133
[159] Gobal Krishnan, Ganga Dammned and Polluted, Toxics Watch Alliance, 17 June 2012

"Agricultural run-offs flow into the river with the monsoon rains,[160]" says Ravi Chopra, director, People's Science Institute, and former member of the NGRBA[161]. Sunil Chaudhary further says ***"These pesticides and chemical fertilizers spread through the aquatic ecosystem and into the human food chain."[162]***

Experts feel that a minimum flow of water should be maintained into the river.***"A major finding of the CPCB is that bacteriophages have disappeared from the Ganga waters due to excessive sewage discharge. The presence of bacteriophages gives the river its anti-bacterial nature,[163]"*** says DD Basu.

Ganga Action Plan I & II both have failed to maintain the cleanliness of Ganga.

5.4.2 GANGA MAHASABHA AGREEMENT

Pollution of river Ganga has been in violation of the **Ganga Mahasabha Agreement** established in 1916. Ganga Mahasabha was set up in 1905 by Pandit Madan Mohan Malviya. As per this agreement continuous flow of river Ganga would never be interfered with[164] and no decision on Ganga would be taken without the consent of the Hindu community[165].

5.4.3 THE GANGA MINISTRY

We know that Banaras and Ganga both have played an active part in 2014 general elections. The Indian Prime Minster, Mr. Narendra Modi had said that he was called by "Mother Ganga" to Banaras. Modiji then inducted a ministry into his cabinet after the name of a river. The Ganga River Basin Authority (GRBA) is a part of Ganga Ministry. GRBA is controlled by the Water Resource Ministry. The Empowered Steering Committee undertook some important tasks in relation to Ganga's **aviralta**(unimpeded flow) and **nirmalta**(unpolluted flow)[166].

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[160] Supra 133
[161] Supra 133
[162] Supra 133
[163] Supra 133
[164] 1916 Agreement, clause 32, para-I
[165] 1916 Agreement, clause 32, para-2

[166] Chicu,GangaMaiyyaki Jai': Uma Bharti at the Ganga Mahasabha, See http://www.indiawaterportal.org/articles/ganga-maiyya-ki-jai-uma-bharti-ganga-mahasabha

The following are the three major parameters based on which, river Ganga would be examined and cleaned:

- **Unrestrained flows:** A committee had been formed for this, which would examine the river for river-specific, site-specific and rainfall-specific ecological flows. Along with this illegal mining of sand would be checked.
- **Uncontaminated flows:** Technologies of foreign countries would be inspected for cleaning the river
- **Riverfront development:** Corporates who had worked for river Sabarmati in Gujarat will be invited to develop Ganga from Gangotri to Gangasagar.

5.5 NGT ORDER BANNING RIVER RAFTING IN RISHIKESH

Social Action for Forest & Environment (SAFE)

Vs.

Union of India & Others[167]

Here, relief was sought by the petitioner against the camping activities that were being carried out along the banks of River Ganga from Shivpuri to Rishikesh. The NGO had been arguing that that this activity was in violation of the environmental norms and was causing excessive degradation in the purity of river Ganga. The counsel for the petitioner also said that, there inadequate sewage system leading to sanitation problems. It was said that no new licenses should be issued for rafting and the area should be restored. Meanwhile, the rafting activities have been suspended by the order of 31st March, 2015. Further, Indian Association of Rafting Outfitters, passed an application for modifying the said order and alleged that the operation of the rafting camps on River Ganga was acceptable[168]**.**It was said that, the rafting activity was a forest activity with the purview of the Forest Act.

Vikram Tongad, the founder of SAFE said**,*''We are somewhat satisfied with the NGT's decision as we wanted regulations and guidelines to be put in place for these beach***

[167]BEFORE THE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI, Original Application No. 87 of 2015

[168] The Tribune, 8th July 2015

camps which have mushroomed in the stretched from Rishikesh to Kaudiyala flouting all environmental norms"[169].

5.6 NATIONAL GREEN TRIBUNAL'S BAN ON COMMERCIAL ACTIVITIES IN ROHTANG

RohtangPass,on the eastern side of the Pir Panjal Range is located in the Himalayan region, at about 51 km from Manali, in the state of Himanchal Pradesh. It connects Kullu Valley with the remote district of Lahaul and Spiti[170]. The NGT had passed an order wherein which there was a ban imposed on the number of vehicles passing through the Rohtang pass. On a report submitted by the NGT, Deputy Registrar, Sheetal Sharma, it was revealed that the public and other taxi drivers were not adhering with the said order. As per her more than 5000 vehicles were still crossing the pass. It was said that this was leading to blackening of snow, air pollution, noise pollution and unhygienic conditions. The tribunal took the matter seriously and even threatened that if the concerned authorities did not take an immediate action, their properties and salaries would be attached to the treasury of the government[171].

Locals and those involved in the business of paragliding, horse riding, snow scooters, renting of snow clothes like boots, jackets, sledges etc. argued that their livelihood would be affected if the number of vehicles decrease, thereby decreasing the number of tourists per day.

Livelihoods of more than 8,000 residents of Manali and nearby villages would be affected[172].The government was asked to come up with a reasonable solution to deal with the situation.

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[169]Manjur Kumar, Big setback, say Beach camp operators, The Time of India,11th December 2015 at Dehradun

[170]Rohtang Pass: SC to hear Taxi Union's plea against NGT order, Business Standard, 20th May, 2015 at New Delhi; See http://www.business-standard.com/article/pti-stories/rohtang-pass-sc-to-hear-taxi-union-s-plea-against-ngt-order-115052001417_1.html

[171]BEFORE THE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI, Original Application No. 237 (THC) of 2013

[172]Ashwini Sharma, No passage at Rohtang: background and fallout of Green Tribunal order | The Indian Express, 20th July 2015, at Shimla

How serious is the environmental crisis?

The tribunal had ordered for the removing of the encroachments at Marhi between Manali and Rohtang Pass, in 2013. Then in 2015, the NGT relaxed its ban on the vehicles and curtailed it up to a ceiling of 1,000 per day, which would be divided into 600 petrol and 400 diesel vehicles[173]. This permit would be given only to the registered vehicles. Besides this, the government was suggested told to explore CNG-run buses and strictly monitor air quality[174].The vehicles were causing air and noise pollution together with dumping of plastic wastes. 2500-3000 vehicles were used to cross the pass on a daily basis[175].An environmental expert report said glaciers in the area were receding at the rate of 10-12 m a year[176].

Nagpur-based National Environmental Engineering Research Institute studied the situation and confirmed damage to the ecology due to unregulated tourism[177]. A ropeway system of travel has been suggested along with running special buses, and allowing only battery-operated snowscooters[178].

The green panel conducted a check on the vehicles for pollution and ensured they complied with the BS-IV standards. Any vehicle which would be found carrying more than six people, shall have to pay a compensation of rupees 5000 as environmental compensation for one time single entry.

5.7 NATIONAL GREEN TRIBUNAL, SUPREME COURT COME DOWN HEAVILY ON ENVIRONMENTAL ISSUES PLAGUING UTTARAKHAND

BAN ON USE OF PLASTICS

From February 2016, the usage of plastics from Gomukh to Hariwdar along the banks of river Ganga has been banned. Besides this, the tribunal would be slapping a penalty of rupees 5000 on anyone going against this order, be it hotel, dharamshala or

[173]Rohtang Pass Ban: NGT relaxes ban on tourist vehicles, by Express news Service, 20th August 2015 at Shimla

[174] Supra 153

[175] Supra 154

[176] Supra 153

[177] Supra 153

[178] Supra 153

asharamowners spewing waste into the river water[179]. ***''Under no circumstances of any kind, plastic carry bags of any thickness whatsoever would be permitted. The procurement, storing and sale of such plastic bags, plates, glasses, spoons etc. are hereby prohibited,[180]''*** a bench headed by Justice Swatanter Kumar said. In addition to this, no waste material that is generated from construction and medical units would be dumped into the river or in any of its tributaries.

Vinod Singhal, member of the Uttarakhnad Environmental Protection and Pollution Control Board (UEPPCB) told the Times of India (TOI), ***''The UEPPCB has already enacted a law whereby we have banned the use of polythene of 40 microne or below. However due to lack of awareness, it was not properly implemented. The NGT order will ensure the monitoring of the polythene ban in Haridwar and Rishikesh. However the execution of the order lies with the Municipal Corporation or local bodies which are the statutory body in this regard''[181].***

The tribunal also ordered for the closing of industries which had been working without the approval of UEPPCB**.** The cleaning work was divided four-five segments which would be more effective than by allocating the work on the hands of one single body. The According to the Haridwar's NGT Commissioner, the work of cleaning the Ganga was slow due to lack of funds and the officials had been passing on blames to each other. No one actually accepted their liability.

5.8 MINING BAN IN GUALA, NAINITAL

The NGT passed an order on 29th January, 2016, banning the mining activities in Guala, nearby the Nainital district. This activity earns a revenue of rupees one forty three crore to the state exchequer. The general manager of Uttarakhand Forest Development

[179]Manjur Kumar, Ganga Rejuvenation: Plastic Banned From Gomukh To Haridwar, The Times of India, 11th December 2015

[180] Supra 162
[181] Supra 162

Corporation (UFDC) said,***''Since only the manual way of mining is being conducted in the Gaula river, so we will not stop mining in the river''***[182].

This river originates in Nainital district from Padampuri, thereby flowing through the town of Haldwani and passes through the Terai East Forest Division (TEFD). Dinesh Pandey, an environmentalist had made an application to the tribunal to quash the clearance given for collecting stones, boulders and minerals from the riverbed in the year 2013. He said that these activities were causing a loss of wildlife habitat. Further, he had made an appeal to cancel the approvals granted for stage I & stage II clearance by the Ministry of Environment and Forests (MoEF).

It was argued on behalf of the state government that they had already been adhering to the guidelines given in the M.C. Mehta judgment and so there was no need of banning the mining activity. Whereas, the defendants contented that as per the M.C. Mehta judgment, any activity of mining in river Ganga and its tributaries up to a distance of 100 meters would be strictly banned. They further alleged that distance of 100 meters meant 100 meters on either side, therefore 200 meters in total. There is a lot of tension among the workers using machines, as they might lose their earnings.

5.9 DELHI POLLUTION, SC TO BAN DIESAL CARS

Concerned with the alarming rates of pollution in the national capital, the SC planned to explore options of banning the diesel run vehicles on Delhi roads. Besides this, banning of banning of trucks was also suggested. There has to be a multi-prolonged approach to curb the pollution as there are more than one sources of pollution. The Delhi HC while showing worry towards the menace of air pollution made a reference to particulate matter PM 2.5 &PM 10 and said that as per the statutory norms their levels were not to exceed 60 microgram per cubic meter per day and 100 microgram per cubic meter per day,

[182]VineetUpadhyay&SeemaSharama, NGT ban on mining in Guala draws diverse reactions, 1st February 2016 at Dehradun?Nainital

respectively[183]. The central government said that there was a need of bring a stringent green regime for the construction industry. NGT banned all diesel vehicles above 2 liters and those above 10 years of age and anyone who did not obey the order would be penalized up to rupees 2000. Now as per the orders of the tribunal, the fine would go up to rupees 5000[184].

ODD-EVN FORMULA

The odd-even scheme for plying of private vehicles in New Delhi would be implemented from 1st January, 2016 for a period of 15 days. As per this last digit of the number plates would be checked and only odd number vehicles would be allowed on odd days and vice-versa. All women, doctors, judges, member of parliament would be exempted from this scheme. Anyone found contravening with the order would be fined for rupees two thousand. Further, the Delhi government decided to make it mandatory for vehicles to have Euro VI standards for emissions from 2017[185].

[183] Delhi air pollution is of emergency nature: HC, The Times of India, 30th December 2015, at New Delhi
[184] Vehicles flouting dust pollution norms to be fined, The Times of India, 11th February 2016 at New Delhi
[185] From Jan 1 in Delhi, each pvt car to ply only 15days a month, The Times of India, 5th December 2015.

CHAPTER 6- COMPARATIVE STUDY OF ENVIRONMENTAL ENFORCEMENT MECHANISMS: INDIA AND UK

India is in an urgent need of developing an integrated approach for abating pollution, effective enforcement mechanism, reconstructing of its regulations so that the treaty obligations can be properly met and introducing an incentive based approach for abating pollution.

The main objective of coming up with this comparison is to find out where exactly India is lacking, despite the fact that it has more than 500 environmental laws.

6.1 INDIA – UK COMPARISON: WHY?

The environmental protection laws in India have been working badly. The judiciary, a spectator to environmental despoliation for more than two decades, has recently assumed a pro-active role of public educator, policy maker, super-administrator, and more generally, amicus environment[186].

The Indian Supreme Court has said:

"If the mere enactment of laws relating to the protection of the environment was to ensure a clean and pollution free environment, then India would, perhaps, be the least polluted country in the world. But, this is not so. There are stated to be over 200 Central and State statutes, which have at least some concern with environmental protection, either directly or indirectly. The plethora of such enactments has, unfortunately, not resulted in preventing environmental degradation which, on the contrary, has increased over the years."[187]

Even the 10th five year plan shows it concern for the environment and said that these policies need a thorough review. In 1960's, both India and UK were facing the same situation relating to pollution. The London smog of 1954 is still rememdered.UK took lessons 1980-90 from its Alkali Act of 1863. A major reform in UK's environmental

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[186]Divan, Shyam.andRosencranz, Armin (2001), *Environmental Law and Policy in India: Cases, Materials and Statutes, (2nd Ed),* New Delhi: Oxford University Press, p.l.

[187]Indian Council for Enviro-Legal Action v Union of India 1996 (5) SCC 293

policy was seen in its white paper titled "This Common Inheritance"[188]. UK is now seen as a benchmark nation when it comes to abating pollution[189]. There is thus usually a comparison between India and UK; India and Netherlands[190]. ***In India more emphasis is given to judicial activism and social action litigation whereas in UK, there are better laws for air, water pollution, waste, town planning together with efficient management in conformity with the UK environmental policy.*** This comparison becomes a must because India will come to know where lies the loopholes in its policy. It believed that environmental law is one such field where nations can take lessons from each other's faults and success stories[191].

On comparing section 1 of the UK Environment Protection Act, 1990 with section 2 of our act of 1986 we come to know that environmental law is not confined to a specific set of rules, rather it includes nuisance, tort, negligence etc. This chapter helps in understanding the impact of European Commission and international laws on UK's and India environmental regime. Not only this, the international law has had influence on UK and India particularly from Stockholm's time. In India the judiciary plays an important role, but this is not the case in UK. India had adopted its basic governance system from that of the UK.

The UK constitution also guarantees freedom of life which includes right to live with human dignity, equality and personal integrity, thus depicting that there is some part of the environment influenced by its constitution.

6.2 ENFORCEMENT OF ENVIRONMENTAL LAW: APPROACHES

An effective mechanism is one which fulfills all the objects of legislation. But when it comes to facing the ground level reality, the situation is total different. Environmental

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[188] UK Government (1990) This Common Inheritance, Britain's Environmental Strategy, Cmnd 1200, London: HMSO.

[189] Zottl, Johannes. (2000) 'Towards the Integrated Protection of the Environment in Germany ?', Journal of Environmental Law ,12:3, p.281

[190] Kuik, O.J. et al. (1997) Pollution Control in the South and the North: A Comparative Assessment of Environmental Policy Approaches in India and the Netherlands, New Delhi: Sage Publications.

[191] Tromans, Stephen. (1994)' Some Comparative Reflections', in Markesinis, B.S. (ed), The Gradual Convergence: Foreign Ideas, Foreign Influences, and English Law on the Eve of the 21s' Century, Oxford: Clarendon Press, p.252.

law without proper enforcement is of no use. Therefore it is very important to know as to how law works on the ground. The socio-legal approach considers the practical expression of legislative mandates[192]. When it comes to actual implementation of an environmental law, we come to know about its weakness and then apt suitable solutions can be provided. In 1970's, both India and UK followed the **command–control approach.** But then it was argued that it lead to inefficiency and could not design effective pollution abetment techniques. This lead to a shift to **incentive based strategy.**

- **COMMAND & CONTROL (CAC) STRATEGY:** It depends on the standards that improve the quality of the environment. These standards are the basic levels of performance. A speed limit is a classic type of standard, it sets maximum rates that drivers maylegally travel[193]**.**The three standards used are ambient, emission and technology.
- **INCENTIVE BASED STRATEGY:** It provides for economic incentives like taxation policy or other administrative sanctions like self-regulation or self-audit. Here, even Non-government influence may also be seen.
    - **ECONOMIC INCENTIVE:** To reduce the levels of pollution, it is necessary to impose emission charges. Emission charges are imposed on per unit of pollution caused. These may then be utilized for upgrading the quality of environment. Marketable permits are a sought of emission charges, who can be traded. The needs to be a balance between over compliance and default in compliance.
    - **COMMERCIAL ENVIRONMENTALISM:** This generates new markets like increase in demand for recycled products so that pollution can be curtailed. In such a case, consumer has a choice between paying the cost of compensation or to avoid it. To get a better understanding about this, help of NGO's can be very effective. Presently, self-regulation by the industries is also proving out to be effective and helping the industries to themselves reduce the level of pollutions so that there is no need of stringent government actions.

[192]Hutter, Bridget M. (ed) (1999) A Reader in Environmental Law, Oxford: Oxford University Press p.4. 125
[193] Field, Barry C. (1994) Environmental Economics: An Introduction, Singapore: McGraw Hill, p.206.

6.3 REGULATORY REGIME IN INDIA

Based on command and control strategy, the regulatory regime in India brings into use delegated legislation (rules, regulations, by-laws, notifications etc.) for the purpose of implementing the laws. The two major governing bodies are central and state pollution control boards. Environmental audit and its impact assessment is a cumbersome process. Here laws once made, never get reviewed. These standards, rules are imposed on industries, keeping in mind that they would be adhered to and would thus be legally enforceable. The MoEF has come up with specific standards for both water and air. Bodies at central and state level check their compliance. How frequent inspections are to be conducted in an industrial unit depends on the severity of pollution.

6.3.1 PROBLEMS IN ENFORCEMENT

The Indian Supreme Court had made following observation in the case of **Indian council for Enviro-legal action:**

"If the mere enactment of laws relating to the protection of environment was to ensure a clean and pollution free environment, then India would, perhaps be the least polluted country in the World. But this is not so. There are stated to be over 200 central and state statutes, which have at least some concern with environmental protection, either directly or indirectly. The plethora of such enactments has, unfortunately, not resulted in preventing environment degradation which, on the contrary, has increased over the years[194]."

"India employs a range of regulatory instruments to preserve and protect its natural resources. As a system for doing so, the law works badly, when it works at all. The legislature is quick to enact laws regulating most aspects of industrial and development activity, but chary to sanction enforcement budgets or require effective implementation. Across the country, government agencies wield vast power to regulate industry, mines and other polluters but are reluctant to use their power to discipline violators"[195].

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[194] Indian Council for Enviro-legal Action v Union of India 1996 AIR (SC) p.293.

[195] Divan, Shyam.andRosencranz, Armin.(2001) Environmental Law and Policy in India: Cases, Material and Statutes, Second Edition, New Delhi: Oxford University Press, p.l.

Taking cognizance of offences under the environmental laws, is a statutory duty of the pollution control boards. But they lack in determining relative culpability of the offences. This gives vast discretion to the boards, leads to delay. *For example, forest officials of the States Forest Departments are under a statutory duty to enforce the provisions of the Indian Forest Act 1927 relating to offences. Forest officials file complaints. At times, officials exercise vast discretion in mattes of prosecuting offenders. But there are no specific prosecution policies laid down.*

6.4 INCENTIVE BASED REGIME FOR POLLUTION IN INDIA

Although India is based on CCA model, problem of pollution is yet unresolved. **If an incentive based approach is adopted, focus would be more on prevention of pollution rather than its control.** *This policy says that prevention of pollution should be done at source by applying best available practicable technical solutions, thus upholding the concept of polluters pay.* Economic incentives on purchase of pollution control equipment as mentioned under the Income Tax Act 1961, tax deductions should be givento any tax payers, who has given any contribution to an organization engaged in the conservation of natural resources, rebate should be granted on customs and excise duty on pollution control equipment and imposition of cess on water consumption under provisions of the Water (Prevention and Control of Pollution) Cess Act 1977 should be encouraged so that pollution can be minimized**.**

6.5 ADMINISTRATIVE SET UP IN UK

The central government in consultation with the Department of Environment, Food and Rural Affairs (DEFRA) lays down rules for environment protection. Energy rules are looked up Department of Trade and Energy. UK government works on **Greening Government** set up. The House of Commons Environmental Audit Committee, the Cabinet Committee on the Environment, the Green Ministers Committee are all a part of this initiative. In addition to this there are Parliamentary Select Committee and the Royal Commission on Environmental Pollution (RCEP).**'Modernizing Government**[196]*'* has its

[196]UK Government (1999) *Modernising Government,* Cm 4310, London: HMSO, available online at http://www.archive.official-ducuments.co.uk (visited 19 February 2002).

emphasis on crafting policies which do not create unnecessary burden, involvement of others in policy making. This initiative will be a joint action, as all organizations involved in environment management would work together. Here, Secretary of State has quasi-legislative and legislative powers. The Secretary of State not only needs to update the law, but also comply with the EC mandates. Environmental Agency deals with daily environmental matters.

6.5.1 ENVIRONMENTAL AGENCY (EA)

It is formed under The Environmental Act of 1955. It in an independent entity and does not have an immunity from the crown. This agency carries out functions like those of National Rivers Authority, the Her Majesty's Inspectorate of Pollution and the Waste Regulation Authority. Its other functions include controlling and managing water resources in order to prevent its pollution, permitting adoption of proper waste management facilities and controlling of all emission. U/s 4 of the act the basic aim of EA is to ensure the quality of environment as a whole and work towards achieving sustainable development. Section 5 makes it obligatory for the EA to minimize and mitigate the effects of pollution. U/s the agency was environmental duties in relation to water.

6.6 UK REGULATORY REGIME

Although there has been an increase in mechanisms undertaken for reducing the environmental problems, the UK environment protection is regulated by public bodies[197]. The British system involves minimum prosecution and has an elastic enforcement strategy[198].The British approach to environmental regulations has become more centralized over past 10 years. Therefore Vogel's analysis is now outdated.

6.6.1 BRITISH APPROACH TO REGULATION

The regulatory system in the UK is transferable, delegated and powers are conferred in the hands of a number of bodies, thus making it a decentralized decision making centre.

[197]Bell, Stuart, and McGillivray, Donald. (2000) *Ball & Bell on Environmental Law: The Law and Policy Relating to the Protection of the Environment,* Fifth Edition, London: Blackstone Press limited, p. 177.

[198]David Vogel, an American commentator in his *National Styles of Regulation* in 1986.

Even the local authorities have been given some environmental protection powers with respect to air and soil pollution, town and country planning. Secondly, regulatory bodies have a lot of discretion when it comes to exercising powers. Likewise, local planning authorities have wide powers when it comes to granting of permission for new progressive projects. There is minimum judicial intervention until there is a genuine need. Scientific evidence is majorly relied on by the British. In this way pollution can be controlled.

However, the environmental standards now are more centrally focused.

6.6.2 THE BRITISH APPROACH TO ENFORCEMENT

There are three approaches to the British enforcement mechanism

- Cooperative approach
- Deterrent approach
- Responsive approach- based on warning, notices and revocation of consents etc.British approach is very wide when it comes to making interpretations. Out of the studies conducted for the enforcement of environmental law till date, ***Hawkin's Environment and Enforcement 1984, Richardson's and others Policing Pollution 1982 and Hutter's The Reasonable Arm of the Law 1988 state that regulatory agencies depend more on a cooperative approach in enforcing environmental law than on resorting to prosecutions in the first place***[199]**.**It is believed that not observing a consent condition is not criminal in nature but is immoral. Rather than prosecution, suitable alternative remedies should be switched to. Criminal action should be left as deterrent action. In cases of conservation offences, a cooperative approach is more feasible. Today, the regulating authorities have been using consent oriented regime and has be adopting deterrent method of enforcement.

[199] GOVIND NARAYAN SINHA, A COMPARATIVE STUDY OF THE ENVIRONMENTAL LAWS OF INDIA AND THE UK WITH SPECIAL REFERENCE TO THEIR ENFORCEMENT, School of Law, The University of Birmingham

6.6.3 THE ENVIRONMENT AGENCY ENFORCEMENT AND POLICY PROSECUTION

Enforcement officers use their discretionary powers when it comes to prosecuting offenders and thus there is no uniformity in punishment. In order to have a transparent approach for prosecution, there have been several demands. The Enforcement and Prosecution Policy of 1988 of the Environment Agency is based on the premise that prevention is better than cure. It says that wherever possible the regulatory system should be complied with. The EA expects full voluntary compliance with relevant legislation, but it will not hesitate to use its enforcement powers where necessary[200].The EA is vested with the following powers:

- Power to issue enforcement notices, where there is a possibility to prevent the contravention.
- Power to issue prohibition notices, in case of environmental damage
- It can also suspend and revoke of licenses and issue a warning where a criminal offence has been committed.

This policy works on four major principles:

- Proportion between applying law and securing compliance,
- Consistent approach,
- Transparency with respect to working of the Agency
- Targeting law-breakers

Prosecution would take place in serious cases only. This creates uniformity in enforcement mechanism.

6.6.4 ECONOMIC INSTRUMENTS IN UK

Economic instruments are very important when it comes to protection of the environment. The following are the instruments adopted by the UK government:

- **Charges for operating cost**: so that the expenses in attainting approval and other consent can be obtained. UK has such laws for water pollution. Thus if there are

[200] UK Government (1998) Enforcement and Prosecution Policy, the Environment Agency for England, available online at http://vyww.environment-agencv.gov.uk

heavy costs for projects that cause more pollution, those projects would not be undertaken

- **Imposing Carbon tax**: The idea is to raise the price of fossil fuel to reflect their true environmental effect, thus curtailing their use and reducing the green-house effect[201].
- **Pollution control measures:** The EA recovers the cost of cleaning a site from the polluter. Fine is also levied
- **Charges levied on polluting materials or processes:** A landfill tax was imposed in 1966 in UK. Likewise there may be less charge on eco—friendly technologies. Example less charge is imposed on unleaded petrol in UK.
- **Granting Subsidies:** This comes in the form of an incentive to agencies which find it difficult to comply with the prescribed standards. This may be administered through grants, soft loans and tax allowances[202].
- **Deposit and refund scheme:** In deposit and refund systems, a surcharge is laid on the price of potentially polluting products. When pollution is avoided by returning these products or its residuals to a collection system, a refund of the surcharge follows[203].

[201] Supra 182
[202] OECD (1989) *Economic Instruments for Environmental Protection,* Paris: OECD, p. 15.
[203] Supra 182

CHAPTER 7- ENFORCEMENT OF ENVIRONMENMTAL LEGISLATIONS: ISSUES AND CHALLENGES

7.1 INTRODUCTION

- When it comes to enforcing environmental laws in India, effective and efficient mechanism is required. India has been facing the drastic consequences of Bhopal Gas Tragedy. After a study of pollution, it is seen that absolute liability in itself is not enough. Along with this, **Principle of safe design** should be developed. When an industrial unit is set up, all necessary precautions are taken so that accidents do not occur on a daily basis, now there is a need to anticipate the **worst of worst situations** or put in that **extra level of calculation** which goes beyond the **reasoning ability of a man of ordinary prudence.** Liability should be strictly fixed without no **default and concession.**

The most controversial bill today is that of the **Nuclear Liability, 2012** as per which there is **capping in fixing the total liability** when a nuclear accidents occurs. The suppliers cannot be sued directly and the cost has to be recovered from the operators. Now when this is compared with the situation of Bhopal Gas, giving compensation through a capping mechanism is not suitable. This would not give a proper relief to the victims. It may happen that the disaster is major and the damages are of a nominal nature.

THIS FACTOR SHOULD BE TAKEN CARE OF.

- Secondly, a regular system of checks and surveillances should be implemented on the industries. Sincere attempt is required to make the monitoring mechanism more stringent, if any repairs are required to be made to the machines, they should be done immediately.
- Apart from this, the duty lies on the government to ensure that when a relief is given, all should get its benefits. Proper upgrading of laws and all other information should be made available at the earliest possible.
- Emphasis to be laid on investment in energy management sources. There should be equity in participation at the hands of public and the entitlements received by them.

- Adopting an Eco-Development technology is a must, in this first the already degraded resources are upgraded through a practical filed scheme for example land reclamation, use of clean technology.
- Promote sustainable development.

When it comes to improving our surroundings, adoption of following technologies can turn out to be helpful:

- Setting up of benchmarks for incinerators that are used in chemical waste treatment units
- Controlling of volatile organic compounds (VOCs) emissions
- Establishing guidelines for workers working in asbestos mining
- Controlling fly ash and coal emissions that are generated in the power plants
- Utilizing spent wash for composting
- Liquid effluents from pulp and paper industries must be distillated and use for irrigation purposes
- Conserving water in sugar industries
- Naming red category industries, assessing them, checking the amount of pollution they are causing
- Developing environmentally sound technologies for recycling of electronic wastes.
- Reviewing standards and preparation of documents on basis of the category of pollutants
- Regular follow-up on implementation mechanism of Corporate Responsibility for Environmental Protection (CREP) with respect to dangerous industries like
    - oil refineries, petrochemicals, dye and dye intermediate, sulphuric acid plants, fertilizer, tanneries, pesticides, pharmaceuticals, thermal power plants, iron & steel, cement factories
- keeping check on the remedial measures adopted

7.2 THERE IS A VITAL NEED FOR

- Following a logical path for policy implementation
- To adopt and adhere to judicial decisions and international commitments
- To avoid inconsistencies and conflicts
- Develop a holistic approach in planning the law
- Govern environment with transparency
- Establishment of green belts
- Proper waste water treatment techniques
- Discussing the bridges in implementing the policies

7.3 RECOMMENDATIONS AND CONCLUSION

- Set up a carbon tax and green tax mechanism
- Develop integrated law for enforcement
- Develop positive attitude towards implementation
- Provide more power to the boards, so that the polluter can actually be punished.
- Establish more green courts, with a single appeal mechanism
- Active participation from the judiciary must be appreciated
- The Public Liability Insurance Act, 1991 which calls for giving liability assurance to the public for installing hazardous substance to provide minimum relief to the victims, is a welcome step in the right direction. Such insurance not only safeguards the interests of victims, but also help the industries meeting their liabilities
- Educate people on environmental issues
- sustainable development, the connecting factor between ecology and development should be encouraged
- Co-operation between the central and state governments

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