

# Lex Terra

## News Updates on Environmental Law

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*“The environment is where we all meet; where all have a mutual interest; it is the one thing all of us share.”*

—Lady Bird Johnson

“Lex Terra is an initiative by the members of Centre for Environmental Law, Advocacy and Research (CELAR) of National Law University. Through Lex Terra, we are making an effort to put forward the various facets related to Environment from different sources which is published every fortnight among the society so that a community of environmentally conscious people emerge out of the legal and non-legal fraternity.

Each edition of Lex Terra highlights some noteworthy eco-news, both at global as well as national arena.

This newsletter is extensively prepared by the members and researchers of CELAR, the members of NLUA.

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Photo courtesy: Pushpanjali Medhi

## About CELAR

The primary mission of Centre for Environmental Law, Advocacy and Research (CELAR) of National Law University, Assam is to engage in advocacy and research on public interest environmental issues. For the purpose, it will organize workshops and seminars to educate and develop skills, convene conferences to promote exchange of ideas, conduct training programmes for capacity building in environmental law issues, undertake research on legal concerns and publish

periodically, newsletters and journals.

The objectives of the CELAR are as follows:

- To inspire and educate students by providing hand-on advocacy experience and direct exposure to the issues.
- Strengthen access to justice by undertaking high quality multi-disciplinary research on contemporary legal issues pertaining to environment.
- Advocate for reforms in environmental law through

scientifically sound legislative proposals.

- Organise training programmes for strengthening the legal capacity building on environmental laws do civil servants, law enforcement authorities, non-governmental organizations and media personnel.
- Publish periodically journals and newsletters on environmental law.

— Professor (Dr.) Yugal Kishore,  
Centre Head, CELAR

## Message from Team Lex Terra

Dear Readers,

It is with much joy and anticipation that we present to you the seventeenth issue of CELAR's fortnightly newsletter, *Lex Terra*.

We congratulate the team for its continuous and praiseworthy collective efforts.

The team of *Lex Terra* wishes to thank all of those who supported this initiative. We would like to express our gratitude to our respected Vice-Chancellor, Prof. (Dr.) Vijender Kumar for his continuous support and timely inputs. We would like to thank Prof. (Dr.) Yugal Kishore, the Centre Head of CELAR for his help and encouragement. We would like to thank Mr. Chiradeep Basak, Centre Co-ordinator of CELAR, who has been a source of inspiration from the outset, along-side his unrelenting contribution to all phases of the job, from planning, to setting clear goals and appraising the outcome. Lastly, we would also like to extend our gratitude to our faculty advisors, Ms. Shannu Narayan and Mr. Nayan Jyoti Pathak for their ideas and relentless support.

Based on our publication's impact factor as well as some requests and suggestions by academicians from other law schools, we now share our publication with all law schools, administrators along with a pool of eminent environmental activists, researchers and lawyers in India and overseas. We are also accepting short articles for publication. **So if you are willing to be part of this venture, kindly contribute.**

Our issues go online every 1st and 16th of each month.

Please keep pouring down your support and concern for mother nature.

Thank you!

**Happy Reading!**



# HYDRAULIC FRACTURING: THE NEGATIVE SHADES

*Apeksha Gupta, 3rd Year  
Suchita Nidhi Tigga, 3rd Year  
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In order to meet global energy needs, development of onshore and unconventional gas resources in deep shales is expanding at a fast rate. Since 1947, Hydraulic fracturing is being used by oil and gas industries. This process, otherwise known as fracking, has been a hot topic for discussion and is largely targeted by media articles and various studies. This process is risky, especially if we look at the big picture. This article will throw some light on regulatory and environmental considerations associated with fracking which are enough for gutting the benefits of switching from thermal power to natural gas.

The introduction of hydraulic fracturing has increased shale gas production since 2003. This decreased the dependency of U.S. on supplies from other countries. No doubt, U.S. earned many benefits, but the important question is what is the cost? Hydraulic fracturing is basically a drilling technique to extract from undergrounds either natural gas or oil.

The ones who favor this say that it's a safe method, whereas the critics claim that it can cause a lot of harm to the environment. Oil and gas industries say that fracking has helped in improving the country's ability of generating electricity, power vehicles, and heat homes. Critics on other hand say that these industries are ignoring or rather are not bringing out the real effects of such drilling activities which

include a long list ranging from pollution to earthquakes.

Many people describe natural gas as a "bridge fuel" for a clean energy future, with increasing usage of renewable solar and wind energy. But this does not mean that production of natural gas is without any environmental risk. It includes risks relating to poor well construction practices, blowouts from well, surface leaks, and insufficient system of water recycling. Companies or agencies that adopt a transparent approach towards shale gas development must be encouraged as well as supported.

## **Impact on water**

Since world is getting drier, usage of processes or energy sources that consume millions of gallons of water, is nothing but sheer madness. Even during the first month of the drilling process, or production, millions of gallons of waste water is produced which contain various pollutants.

After the release of report by EPA, it declared that there is no proof that fracking process resulted in any kind of widespread impact on drinking water. It also said that the impacts to sources of drinking water are small when compared to the number of wells actually fractured. On the other hand, EPA accepted that their report may be affected by insufficient data.

Among various concerns or impacts relating to hydraulic fracturing, one is water consumption. EPA also said clearly in its report that the process involves usage of lots of water and managing the water that flows is another challenge. As per EPA's senior counsel named Robert Sussman, there is a lot of strain on water sources. So basically it concludes that there is not a lot of evidence that hydraulic fracturing affected drinking water resources but at the same time, the report also says that fracking affects water sources. In such situations, best solution would be baseline monitoring studies relating to ground, before any drilling activity begins.

### **Waste water**

Mark Brownstein, vice president, the climate and energy program (Environmental Defense Fund) said that handling the waste water that comes to surface after fracking is a greater challenge. Hence, it needs to be given special attention. As of now, many companies are disposing of waste water by way of public treatment plants for wastewater. But the problem is that such plants are not efficient enough to remove the chemicals, toxins and sediments. Hence, chemicals are eventually released into rivers or streams which are then used as primary water sources. If this is all left unchecked, this kind of pollution can permanently damage the main freshwater reservoirs.

### **Impact on air**

Fracking releases into the air, methane as well as volatile organic compounds and a lot of hazardous air pollutants, and greenhouse gases. Even small leakages in the production of natural gas can have a large impact. No doubt obtaining natural gas would lessen our dependence on thermal power. Using coal as a fuel is generating many gases like carbon dioxide, ash, mercury, and sulphur dioxide. The problem associated with fracking is that it releases methane that is actually said to be 20 times more potent than carbon dioxide. For protecting the atmosphere, all operators must be compulsory made to work towards reduction in emissions of methane or other harmful compounds. To be considered as a climate-wise alternative, methane leaks must be around two percent but as per study, methane leaks are 6 to 12 %.

### **Use of toxic chemicals**

The fluids used in fracking contain chemicals that are toxic and these are injected into drinking water supplies. These affect our respiratory system as well as neurological and reproductive system, and also have a great impact on central nervous system. Operators must conduct in-depth testing of well casing and of cement prior to the process of injection of fracking fluids.

### **Risk to ecosystem**

Fracking also has a disadvantage that it extracts in the process natural salts, metals that are heavy, extracts hydrocarbons as well as radioactive

materials from shale, and hence poses risks to the ecosystem and public health whenever these come to surface.

### **Fracking affects Wild Life**

Unlike oil, which can be accessed from a single well, fracking requires many wells. This leads to great truck traffic, hence causing both air and water pollution and more disturbances to wildlife habitat. Birds also get poisonous chemicals through the water in wastewater ponds. Fishes die when water is contaminated because of the fracking fluid.

### **Disclosure of Chemicals**

As of now, companies are actually not compulsorily made to disclose the chemicals or formula of chemicals they use in the process, and this obviously makes everything harder for everyone who is involved in studying the impact of chemicals, because they are having tough time identifying what is happening.

### **Leads to Earthquakes**

Another great point of concern is fracking leads to earthquakes. 2014 Annual Reviews of Environment Resources mentioned that from 1967 to 2000, 21 earthquakes of 3.0 Mw or greater were observed in central U.S. If we talk about 2001, then in its starting the earthquakes rate rose to 100 earthquakes of such kind per year. Research on places like Texas and Oklahoma is suggesting unknown and risky changes. And obviously it's not a smart way to just keep going on a massive scale and

discovering consequences at a later stage.

### **Fate of liquid that flows back**

Disposal of Fracking fluid after its use during the process of hydraulic fracturing has further challenges. What some operators in North America actually chose, is to pond the flow back fluid into man-made pools and then they let it evaporate, or transport it at a later date. This evaporation leads to concentration of chemical additives, if a leak develops, then it can have a great impact on environment. There is an instance of breaking of these ponds because of poor maintenance or design and this led to contamination of ground water supplies and local habitat.

India being a large energy consumer, the current energy supply is not adequate to meet the needs and 80% of the needs are met by imports. Hence in this situation, India currently has great excitement for shale gas. But switching to hydraulic fracturing may not yield the results that it led for U.S and Canada because India lacks the required technology and also such method can cause serious concerns over environment since there are no proper or strict regulations. It has been estimated that India holds 63 trillion cubic feet of shale gas. But there needs to be a proper measure so that the entire process of extracting shale gas through hydraulic fracturing is environmentally sustainable.

It's undoubtedly sure that soon fracking will come to India. Shale gas has potential to meet our needs but this definitely won't resolve the entire crisis in one shot. We need a long term policy taking into consideration issues of safety of the environment. At this stage, the author concludes that fracking can

basically said to be a false friend and a true enemy and that this rush for developing the unconventional sources of natural gas is logically impractical and will heat up the planet more than burning coal. It has numerous dangers associated with it and is just overhyped by the companies generating fossil fuels.

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*Oirfanhasieb*

# PROTECTION OF LEGAL RIGHTS OF TRIBAL PEOPLE & WILDLIFE CONSERVATION

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## **Introduction**

To live in harmony with nature has been an integral part of the Indian culture and has reflected in a variety of traditional practices, religious beliefs, rituals, arts and crafts, etc., and also in the daily lives of the Indian people from time immemorial. The present day global concerns for sustainable development and conservation of natural resources spanning the two decades between the Stockholm Conference of Environment in 1972 and the United Nations Conference on Human Environment and Development (the Earth Summit) at Rio de Janeiro in 1992 are of recent origin when compared to the long traditional and cultural ethics of conserving nature in India.

## **The Indian Tradition**

For the people of India, environmental conservation is not a new concept. Historically, the culture and civilization of our country developed on the river banks and amidst the dense forests. The protection of nature and wildlife was a matter of faith and reflected in the daily lives of people, enshrined in myths, folklore, religion, arts, and culture. *Manusmriti* declares that the cutting of green trees is an 'offence'. Kautilya has provided in his *Arthashastra* that it is duty of the king to guard, upkeep and plant the forests for his Kingdom.

Scriptures and preaching that exhort reverence for nature and relate to conservation can be found in most of the religions that have flourished in the Indian subcontinent. Hinduism, Buddhism, Jainism, Christianity and Islam place great emphasis on the values, beliefs, and attitudes that relate to the respect for nature. The concept of sinning against nature existed in various religious systems. Many of the rituals which to modern society may seem meaningless and superstitious were traditional strategies to preserve the intrinsic relationship between man and nature. The worship of trees, animals, forests, rivers, and the sun, and considering the Earth itself as Mother Goddess, were part of the Indian tradition. Thus India had a culture of worshiping nature in all its glory.

## **Wildlife Conservation**

Wildlife conservation is the regulation of wild animals and plants in such a way as to provide for their continuance. Efforts are aimed at preventing the depletion of present populations and ensuring the continued existence of the habitats for targeted species which need to survive. Techniques involve establishment of sanctuaries and controls on hunting, use of land, importation of exotic species, pollution, and use of pesticides. A simpler definition of wildlife conservation is the management of species through sustainable practices to ensure future generations can enjoy it as well.

Conservation is not to be confused with

preservation. Preservation is the idea that humans should leave wildlife alone, sanctuaries should be created and humans should have no contact with the animals. Conservation uses direct involvement from humans through habitat restorations, refuges, hunting and photo safaris.

### **Tribal People / Scheduled Tribes / Adivasi**

The word 'Adivasi' that is original inhabitants is an umbrella term for an ethnic and tribal groups believed to be the indigenous population in India. Officially the Indian government used the term 'Scheduled Tribes' in the Vth Schedule of the Constitution of India. Though the term 'Scheduled Tribes' is not defined, instead Article 336 (25) refers to 'Scheduled Tribes' as those communities who are scheduled in accordance with Article 342 of the Constitution. Whereas Article 343 states that the 'Scheduled Tribes' are the tribes and tribal communities that have been declared as such by the President through public notification.

### **Residence of Scheduled Tribes**

India's forests are home to peoples, including many Scheduled Tribes, who live in or near the forest areas of the country. Total population of Scheduled Tribes is 84,326,240 as per the Census 2011 which accounts for 8.2% of the total population of country. Majority of the scheduled tribe population live in rural areas and their population is 10.4% of the total rural population of the country. Forests provide sustenance in the form of minor forest produce, water, grazing grounds and habitat for shifting cultivation. Moreover, vast areas of land that may or may not be forests are classified as "forest" un-

der India's forest laws, and those cultivating these lands are technically cultivating "forest land". Since times immemorial, the tribal communities of India have had an integral and close knit relationship with the forests and have been dependent on the forests for livelihoods and existence. The relationship was mutually beneficial and not one sided.

### **Legal Framework for Wildlife Conservation in India**

India has some of the most stringent legislations to protect wildlife and habitats. The Government of India has introduced various types of legislation in response to the growing destruction of wildlife and forests. These are:

#### **I. Conservation and Protected Area Laws under British India**

In India, the majority of the population depends on land and forests for their survival and livelihood. Ownership and utilization of forest resources were vested with local communities or traditional governance structures until the advent of the British. The administration of natural resources and forest wealth in India started in 1864 by the British followed by the Indian Forest Act of 1865, which was the first attempt at legislation. It was replaced by the Indian Forest Act of 1878, amended in 1890, 1901, 1918 and 1919. With this began the shift in ownership of forests from people to the State thereby leading to the beginning of the conflict between State and communities over protection and utilization of forests.

To make forest laws more effective and to improve the Indian Forest Act of 1878, a new comprehensive Forest Act was passed in 1927 which repealed all the previous laws. The Act consists of

86 sections divided into 13 chapters. The Act brought in three significant legal entities into the forest policy – the specific interpretation and legal mechanisms in defining Reserved Forests, Village Forests and Protected Forests. The concept of ‘protected forests’ takes roots in this Act, giving the State government the right to declare any forest lands or waste lands not declared as ‘reserved forests’, as ‘protected forests’ and prohibit/restrict the rights of private persons on these lands. The other important section of the Act which has not been implemented is the creation of ‘village forests’ assigning rights over certain reserved forests to any village-community.

## **2. Conservation and Protected Area Laws in Independent India**

### **2.1 Constitutional Safeguards for Tribal People**

India followed a policy of social protection towards the marginalized sections of the country, like the Scheduled Castes and the Scheduled Tribes. The majority of the Scheduled Tribal population lives in the hilly and forest areas and their basic sustenance and livelihood are dependent on the natural and forest resources around them. The 8.6% tribal population is protected by the Fifth Schedule of the Indian Constitution through legal mechanisms of ownership over lands and resources in the areas earmarked as the Scheduled Areas. FIFTH SCHEDULE is the constitutional safeguard for the tribal people in India and deals with “Provisions as to the Administration and Control of Scheduled Areas and Scheduled Tribes”. Fifth Schedule Article 244 (1) Part 2 (a) prohibits or restricts the transfer of land

by or among members of the Scheduled Tribes in such area (b) regulate the allotment of land to members of the Scheduled Tribes in such area.

### **2.2 The Wildlife (Protection) Act, 1972 (Amended in 2006)**

The Wildlife (Protection) Act, 1972 is an important statute that provides a powerful legal framework for: Prohibition of hunting; Protection and management of wildlife habitats; Establishment of protected areas; Regulation and control of trade in parts and products derived from wildlife and Management of zoos.

The Act also provides for several categories of Protected Areas/Reserves. They are National Parks, Wildlife Sanctuaries, Tiger Reserves, Conservation Reserves and Community Reserves.

National parks and Tiger Reserves are by law more strictly protected, allowing virtually no human activity except that which is in the interest of wildlife conservation. The amended Act does not allow for any commercial exploitation of forest produce in both national parks and wildlife sanctuaries, and local communities can collect forest produce only for their bona fide needs.

Community reserves and Conservation reserves are two new categories of protected areas that have been included under the Act. These two categories provide a greater role for local communities, stakeholders and civil society as well as the opportunity to protect many areas of conservation value that cannot be designated under strict categories such as wildlife sanctuaries or national parks.

The Act contains elaborate procedures for dealing with legal rights in the proposed protected areas, and acquisition of any land or interest under

this law is deemed as an acquisition for a public purpose.

The 2006 amendment introduced a new chapter (IV B) for establishment of the National Tiger Conservation Authority and the Wildlife Crime Control Bureau (WCCB) was constituted to monitor and control the illegal trade in wildlife products.

The Act provides for investigation and prosecution of offences in a court of law by authorized officers of the forest department and police officers.

### **2.3 The Forest Conservation Act (1980)**

In order to check rapid deforestation due to forestlands being released by State Governments for agriculture, industry and other development projects (allowed under the Indian Forest Act) the federal government enacted the Forest Conservation Act in 1980 with an amendment in 1988. The Act made the prior approval of the federal government necessary for de-reservation of reserved forests, logging and for use of forestland for non-forest purposes.

This powerful legislation has, to a large extent, curtailed the indiscriminate logging and release of forestland for non-forestry purposes by the state governments. While the federal government imposed such strict restrictions, it did not simultaneously evolve a mechanism to compensate state governments for loss of timber logging revenues. This anomaly coupled with increasing pressure for land due to a burgeoning population has generated considerable resentment within state governments resulting in growing pressure to dilute the restrictive provisions of the Act. The Supreme Court of India has currently imposed a complete ban on the release of forestland for non-forestry activities with-

out the prior approval of the federal government.

### **2.4 The Environment (Protection) Act, 1986**

The Environment Protection Act is an important legislation that provides for the coordination of activities of the various regulatory agencies, creation of authorities with adequate powers for environmental protection, regulation of the discharge of environmental pollutants, handling of hazardous substances, etc. The Act provided an opportunity to extend legal protection to non-forest habitats ('Ecologically Sensitive Areas') such as grasslands, wetlands and coastal zones.

### **2.5 The Panchyats (Extension to Scheduled Areas) Act, 1996 (PESA)**

The most significant legislative protection for the tribal people in support of the Fifth Schedule is the enactment of the 73rd Amendment Act (Act. No.40) of 1996 which is known as the Panchyats (Extension to Scheduled Areas) Act and came to be adopted in most of the States with scheduled areas, with corresponding laws. The Act clearly states the supremacy of the Gram Sabha (the decentralized unit of governance in the tribal areas) in the Scheduled Areas and right to self rule and governance of the tribal people. It empowers the Gram Sabhas to have control over resources and the right to "customary law, social and religious practices and traditional management practices of community resources".

### **2.6 The Biological Diversity Act 2002**

India is a party to the United Nations Convention on Biological Diversity. The provisions of the Biological Diversity Act are in addition to and not in derogation of the provisions in any other law

relating to forests or wildlife.

### **2.7 The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**

The Act was enacted to recognize and vest the forest rights and occupation in forest land in forest dwelling Scheduled Tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for recording the forest rights so vested and the nature of evidence required for such recognition and vesting in respect of forest land.

#### **Administrative Action**

National Forest Policy (1998) The National Forest Policy, 1988, (NFP) is primarily concerned with the sustainable use and conservation of forests, and further strengthens the Forest Conservation Act (1980). It marked a significant departure from earlier forest policies, which gave primacy to meeting government interests and industrial requirements for forest products at the expense of local subsistence requirements. The NFP prioritizes the maintenance of ecological balance through the conservation of biological diversity, soil and water management, increase of tree cover, efficient use of forest produce, substitution of wood, and ensuring peoples' involvement in achieving these objectives. It also legitimizes the customary rights and concessions of communities living in and around forests, stating that the domestic requirements of the rural poor should take precedence over industrial and commercial de-

mands for forest products.

National Wildlife Action Plan (2002-2016). This Plan was introduced in response to the need for a change in priorities given the increased commercial use of natural resources, continued growth of human and livestock populations, and changes in consumption patterns. The Plan most closely represents an actual policy on protection of wildlife. It focuses on strengthening and enhancing the protected area network, on the conservation of endangered wildlife and their habitats, on controlling trade in wildlife products and on research, education, and training. The Plan endorses two new protected area categories: "conservation reserves," referring to corridors connecting protected areas, and "community reserves", which will allow greater participation of local communities in protected area management through traditional or cultural conservation practices. These new categories of protected areas are likely to bring in corridor areas under protection. The Plan contains various recommendations to address the needs of local communities living outside protected areas and outlines the need for voluntary relocation and rehabilitation of villages within protected areas.

#### **Conclusion**

Wildlife is one of the basic and natural resources that satisfied the needs of people from time immemorial. Therefore these resources must be conserved, preserved and protected for the existence of mankind. To a large extent, wildlife and forest laws in India have had

the most serious impacts on tribal communities whose customary laws and practices have been worst affected and even the constitutional safeguards provided to them stand threatened by new shifts in forest and other economic policies. The State should make such forest and wildlife policy by stating the need to consider local community interests for utilization of forest resources and for involvement of local communities in protection and regeneration of forests. Unlike other environmental losses, this one cannot be reversed because nature does not give second chances to biodiversity.

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# A PARADIGM OF ENVIRONMENTAL JUSTICE

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## ABSTRACT

*Being a part of the social justice, Environmental Justice demands that all people irrespective of race, ethnicity, gender or class have the right to live in a pollution free environment and should have equal access to natural resources. The concept of Environmental Justice evolved in United States as a reaction of the working class against the discriminatory environmental policy which is proved detrimental to their interests. Environmental Justice brings forward the matter of environmental racism and vulnerable position of the poorer section of the society and demands for initiation of human approach and impartial stand while formulating the environmental policies. This article highlights about the wide dimension of the concept of Environmental Justice as it explain it not from the prism of only racial perspectives but also from the perspective of social justice and argues still the concept has the relevance in modern times.*

## INTRODUCTION

Environmental justice (EJ) is closely associated with the concept of social justice. EJ though primarily attached with the concept of protection of environment but mainly it deals with the sufferings of the poverty stricken people and marginalized groups constituted on the ground of race, colour, sex etc. The dichotomy of the society is that the people belonging from the lower strata of the society are the victims of the greater environmental harm and risk though they share disproportionate and least amount of natural resources. Therefore, the concept of environmental justice arose from the social inequalities. The aim of the environmental justice is to ensure equitable distribution of natural

resources and also to ensure that unprivileged section of the society, ethno-racial minority groups and the poorer section of the society should not be disproportionately targeted with environmental wastes, toxic substances and hazards. It exposes the arbitrary and whimsical nature of the policy makers who unethically use to carry on the major industrial operations in lower income neighborhoods and assailed on them with toxic wastes. Poor and minority groups based on race, colour, sex etc. suffer this hegemony due to their poor bargaining power as they are always kept outside the decision making. A large number of available literatures have already proved the linkage subsist in between poverty and environment. Lt. Prime Minister Indira Gandhi in her speech in Stockholm Declaration,

1972 considered poverty as biggest cause of environmental pollution. In poverty stricken society the poor people in absence of having any alternative means compelled to directly dependable on natural resources and traditional energy sources etc. lead to rapid destroy of natural resources and thus heavily affected the equilibrium what existed among the different components of the nature and causes pollution. If we consider the poverty in macro level we will find the poverty is biggest impediments stand in between the development of science and technology. Of course, pollution is the byproduct of mechanisation, motorisation, Industrialisation happened through the development of science and technology but it can effectively be restrained by advancement of science and technology, by bringing transformation into our life-style and attitude so that we can be more wise and prudent while using the natural resources for our survival. Certainly an underdeveloped nation due to its poor financial strength cannot be able to carry on scientific research or innovate (technology) to restrain pollution. As the problem of pollution occurs in developed country due to irrational development and in developing countries due to underdevelopment, the Environmental justice demands that the developed country should make cooperation and provide financial aids and technological and scientific supports. Mahatma Gandhi told that earth has enough resources to fulfill the needs of the people but not the greed of the people. The above statement clarifies for

incorporation of a proper environmental management which may ensure equitable sharing of resources and sustainable development. Developing countries need development to provide food, shelter, clean water, energy, education to their people and environmental ethics demand solidarity in this regard from the developed countries. The developed countries, multi-national companies and other entities should not make the problem of pollution as an issue to stop various initiatives of the third world countries related to development and make it a monopoly business for fulfillment of their meager interests. The core idea of Environmental justice is that the humanity should not be stampede in the name of abatement of pollution.

EJ refers about a value based society whereby all the people irrespective of any discrimination not only entitled to get equal access of natural resources and other environmental benefits but also an equal amount of protection from environmental risks and hazards. For this end it is required to ensure the participation of all in decision making process and also the equal right of all to access the environmental information. EJ demands for eradication of environmental problems, alleviation of poverty, sustainable development and removal of inequality. EJ highlights about the unplanned, irrational and lack of systematic development which mainly affects the marginalized groups, poverty stricken people, people of colour and indigenous communities as they left to suffer the environmental hazards and risks. It refers to the revolt of the working class against the toxins and pollution and all

other environmental injustices. EJ is the consequences of the revolt of the poor people and people from the backward section of the society against the heightened environmental risk and harm as they compelled to face. The exponents of EJ demands that all people irrespective of race, ethnicity, gender, class or economical criterion have the right to live in a pollution free environment and should have equal access to safe, healthy and hygienic atmosphere. Certainly, EJ intends to adjust and modify the laws and rules so that the minority groups and poor should not disproportionately expose to environmental hazards.

#### GENESIS OF ENVIRONMENTAL JUSTICE

The seeds of environmental justice movement can be traced to the sense of deprivation on the part of the racial and ethnic minority groups and the poor section of the society as they found that they are compelled to live in unhygienic mode of life and expose to greater environmental risk and harm. It has been found that often the people belonging from the lower strata of the society are made victims of the different developmental activities either by migrating them from their place of habitat or by dumping the different highly toxic wastes in their locality. The concept of EJ evolved in United States as a reaction of the working class mainly poor section of the society, minorities and people belonging from the ethnic community against the discriminatory environmental policy which is proved detrimental to their interests. As per different reports published by the Encyclopedia of Race, Ethnicity and Society: Environmental Justice attention has

been drawn to various issues pertaining to the above problem. One of such reports is that of General Accounting Office report which displayed the vulnerable condition of African American Communities residing in the United States. As per the report (second study) of United Church of Christ made in the year 1987, 37.6% of U.S. landfills were located in the region predominantly inhabited by the African-American neighborhoods and in comparison to white people African American were two to three times more likely to reside near a hazardous landfill. Third study is sited from the report of Robert Bullard who in 1983 found that twenty-one of Houston's twenty-five waste facilities were located in African-American neighborhoods. The above reports exposed the conduct of the policy makers towards the weaker section of the society as their policy was biased, discriminatory with racial grounds. This situation paved the way for initiation of the EJ by battling a social movement to stop the state sponsored inhuman treatment such as land filling with highly toxic substances, dumping of hazardous wastes in the areas inhabited by the minority groups. Mainly these social movements were taken place during 1980s and 1990s.

In 1982 under the efficient leadership of Dollie Burwell the people fought the first organized protest against the land filling of 32,000 cubic yards of polychlorinated biphenyl (PCB)-contaminated soil in predominantly African American Warren County, North Carolina and successfully drawn the attention of the world polity towards their plight and got support from National Civil Rights (USA) and different environmental groups. Along with the North Carolina the same battle fought in Dickson

County, Tennessee against dumping of toxic waste materials adjacent to the locality of the ethnic minority groups. In 1987 a national report on the racial and socio-economic characteristics of communities with hazardous waste sites was prepared and published by the Commission for racial Justice of United Church of Christ. Before conducting the above research it had been observed by the United Church of Christ Commission that racial and ethnic communities were badly affected by the poverty, unemployment and problems related to poor housing, education and health. Survival is a biggest question before them than the question of getting quality environment. It had also been observed by the United Church of Christ that the proposal for establishment of hazardous waste facility in there locality by offering economic incentives make their life vulnerable. Under the above backdrop, the Commission for racial Justice of United Church of Christ decided to carry on this research in order to find out the relationship in between the location of sites containing hazardous wastes and the racial and socio-economic characteristics of persons living in vicinity of above sites.

The Commission for racial Justice of United Church of Christ found that not "by chance" but "...race has been a factor in the location of commercial hazardous waste facilities in the United states." the above report concluded with certainty that environmental policies of United States are not free from the racial and class biasness as it had been found that the places predominated by the Black and Hispanic

communities are concentrated with the uncontrolled toxic waste sites which affect their health badly.

The findings and reports mentioned above stated that how poverty stricken people, minorities etc. are made victim of the discriminatory practices in facility location, regulation, enforcement and decision making. EJ bring forward the matter of environmental racism and vulnerable position of the poorer section of the society and demands for initiation of human approach and impartial stand while formulating the environmental policies and the above policies must be incorporated in a democratic and transparent process. On February 11, 1994 President Bill Clinton signed Executive Order No. 12898 to ensure Federal Actions to address environmental justice to minorities and low income groups. The order endorsed the importance of EJ and strengthened the movement of EJ.

#### RELEVANCE OF ENVIRONMENTAL JUSTICE

EJ is closely associated with the concept of social justice and building a foundation for distributive justice. It primarily highlights the poorer sections of the society, including the racial and ethnic communities that are placed in greater jeopardy by channeling the area adjacent to their place of inhabitants as location of new hazardous waste management facilities or selecting their place of inhabitants for carrying out the different development projects which ultimately either make them environmental refugees or they are compelled to live within the pile of toxic substances and thus EJ vows to do justice with this weaker section of the society by redressing inequitable environmental burden and also by ensuring equitable distribution of

natural resources. It advocates about the fundamental rights of all irrespective of race, caste, creed or class to get clean air, water, food, proper sanitation facilities, equipped healthcare facilities, education and hassle free life. It intends to strike on the causes of exclusion, poverty and inequality and gives stress on incorporation of a transparent and democratic system while making legislations and policies on protection of environment so that everyone can participate in decision making process and get the opportunity to share the environmental information.

In this regard it is worthwhile to mention about the Stockholm Declaration which acknowledges that everyone has the fundamental right to freedom, equality and adequate conditions of life in an enabling environment so that they can survive with dignity and ensure their well being. In order to attain above it advocates for elimination of apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination. It is axiomatic that the above principle clearly relates to the concept of EJ and thus EJ gets a legal foundation to materialise its issues. Not only that, Stockholm declaration gives emphasis on eradication of poverty and acceleration of economic and social development without which the concept of EJ will become farce one. Rio declaration mandates that at the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities and also imposes an obligation upon the states to

encourage public awareness and participation access to administrative and judicial proceedings, including redresses of grievances and remedies. Needless to mention the above principle is the condition precedent of success of EJ. It mandates to include women, youth and indigenous people in environmental management and bestows responsibility to protect the environment and natural resources of people under oppression, domination and occupation thereby, providing a legal sanctity to the spirit of EJ. The General Assembly has pointed out 17 goals to be achieved by 2030 for sustainable development. Goal 1 and Goal 2 of the instrument titled 'Transforming Our World: The 2030 Agenda for Sustainable Development' clearly mentions urgent need to end poverty and hunger in all its forms everywhere and achieve food security etc. These goals will surely pave the way for ensuring EJ.

### CONCLUDING REMARKS

According to the Human Development Report 2015 the human progress can be said to be uneven, human deprivation is widely prevalent and human potentialities still remains unused. As per this report 795 million people suffer from chronic hunger, 11 children under age 5 die every minute and 33 mothers die every hour. It further informed that about 37 million people live with HIV and 11 million are suffering from tuberculosis. More than 660 million people deprived from getting clean drinking water, 2.4 billion people do not get the facility of sanitation and 780 million adults are illiterate. A considerable section of the society is reeling under financial crisis and suffering the food and energy insecurity. Perhaps EJ can be proved as a potent weapon to ameliorate

the conditions of deprived section of the society however the concept of EJ should not be kept confined within racial discrimination rather as it is highlighted in the above article, should be considered as a part of social justice.

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# THE EVOLUTION OF GLOBAL ENVIRONMENTALISM

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## Introduction

Environment is the wellspring of life on earth like water, air, soil, and so on, and decides the nearness, advancement and change of humankind and every one of its exercises. The idea of environmental assurance and conservation is not new. It has been characteristic for some antiquated human advancements. Antiquated India writings highlights that it is the 'Dharma' of every person in the general public to secure 'nature'. The expression "nature" incorporates land, water, trees and creatures which are of incredible significance to us. . In the 'Atharva Veda', the antiquated Hindu Scriptures expressed "What of thee I dig out let that quickly grow over".

In the meantime, new advancements like, warm power, nuclear plant thus on with no adequate characteristic certification posture another risk to the circumstances, the eventual outcome of which results in issues like an Earth-wide temperature boost, environmental change, corrosive downpour, and so on. Besides, as per example of Indian lawmaking body to make various enactments rather than tending to the purpose behind disappointment and disillusionment, and passing

new bills reliably is much the same as 'old wine in new jug'. In this manner, there emerges a necessity for a thorough examination of the insurance of nature. Lately, there has been a managed concentrate on the pretended by the higher legal in contriving and observing the usage of measures for contamination control, preservation of woods and untamed life assurance. A hefty portion of these legal intercessions have been activated by the diligent ambiguity in arrangement making and in addition the absence of limit working amongst the official organizations. Mechanism, for example, Public Interest Litigation (PIL) have been unmistakably depended upon to handle natural issues, and this methodology has its supporters and in addition faultfinders.

## Global Environmentalism

Global environmentalism is a sympathy toward, and activity to tackle, worldwide natural issues. Worldwide interconnections have extended environmentalism so our consideration has moved from safeguarding specific scenes or forestalling contamination of a particular watershed or air shed to stressing over the life-emotionally supportive networks of the

entire planet.

Environmentalism is global in two senses. It asserts the priority of a global entity- an ecosystem that operates according to universal laws in a tangled web and of planetary interdependencies; and it refers to a worldwide social process- world level discourse and activity that together have reconstituted nation-states and individuals.

The global environmental regime began to appear in the late nineteenth century, spurred by a new social conception of nature and expanded world organization. Changes in the “facts” of nature first became more rapid in the middle-late 1800s. What, until then, had been conceived mainly as the outcome of “creation”, often separate from and even opposed to human society, became increasingly rationalized as a means to human ends.

The late 1800s also witnessed the increasing organization of the world polity, most strikingly in the expansion of the system of nation-states and colonies. Informal diplomatic networks gave rise to international conferences and treaties, and to later inter-governmental organizations. The process eventually led to the formation of the United Nations, an all-purpose forum for the discussion of world matters, which in turn sparked an even larger level wave of world level organization.

The two processes together, the social construction of a rationalized global nature and the institutionalization of a world polity, established the motive and the capacity necessary for building a global environmental regime facilitated by environmental experts and authorities. At the center of all such international activities lay the assumption that nation-states were primary actors

in the global arena. Thus, the rise of the global environmentalism brought with it the notion that nation-states bore the responsibility for protecting nature.

### **Milestone Conventions in Global Environmentalism**

Keeping in view the of goal of planning for environmentally sustainable development India contributed to the United Nations Conference on Environment and Development (UNCED), also referred to as “Earth Summit” held at Rio de Janeiro, the Capital of Brazil, 3rd-14th June, 1992. The world has been struggling for global approaches to development since the 1970s, when several economic shocks clearly revealed the limits of economic development. The foundations for a global perspective were laid by the Brundtland Commission. Later, at the 1992 Earth Summit in Rio and the 2002 World Summit for Sustainable Development in Johannesburg, a series of conventions and measures were initiated with the aim of linking economic development with environmental conservation and securing the conservation of natural resources on the international, national and local levels for the benefit of the global population. The Millennium Declaration with its Millennium Development Goals (MDGs) is the most recent global answer to the immense challenges of the new millennium. Today, environmental issues are dealt with in well over 700 international agreements and conventions, not counting bilateral conventions. Some of the important international conventions are:

**CBD Convention on Biological Diversity (1992/1993)** (188 parties in 2005; includes *Cartagena Protocol*). This works for conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits from genetic resources, including appropriate access to genetic resources, appropriate transfer of relevant technologies, and appropriate funding.

**UNFCCC United Nations Framework Convention on Climate Change (1992/1994)** (189 parties in 2005; includes *Kyoto Protocol*). It aims to achieve stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, and to reach such a level within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.

**UNCCD the United Nations Convention to Combat Desertification (1994/1996)** (191 parties in 2005). It aims to combat desertification and reduce effects of droughts in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels.

**Ramsar Convention on Wetlands (1971/1975)** (146 parties in August 2005). The convention provides the framework for national action and international cooperation

for the conservation and wise use of wetlands and their resources as a contribution towards achieving global sustainable development. At present, 1459 wetland sites are designated for inclusion in the Ramsar List of Wetlands of International Importance.

**Convention concerning the Protection of World Cultural and Natural Heritage (1972/1975) (UNESCO World Heritage Convention)** (180 parties in March 2005). The convention aims to establish an effective system for the collective protection of cultural and natural heritage of outstanding universal value, currently also referred to as “global commons”. By 1995, the convention's World Heritage List consisted of 469 cultural and natural sites in 105 countries around the world; at present it includes a total of 812 sites in 137 countries. The Convention embodies the important concept of linking together the conservation of nature and that of culture.

**UNEP Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989/1992)** (166 parties in August 2005) It has set up a framework for controlling movements of hazardous wastes across international borders. It has also developed the criteria for “environmentally sound management” and put into place a control system. Building on this framework, the Convention is currently emphasizing full

implementation and enforcement of treaty commitments, along with the minimization of hazardous waste generation.

### Judicial Approach in India

Energized by a climate of flexibility and explanation in the outcome of the Emergency, the Supreme Court entered one of its most inventive periods. In particular, the court braced and extended the central rights given in part III of the Constitution. All the while, the limits of the essential right to life and individual freedom ensured in Article 21 were extended to incorporate ecological security.

The Supreme Court fortified Article 21 in two ways. To start with, it required laws influencing individual freedom to likewise breeze through the tests of Article 14 and Article 19 of the Constitution, in this manner guaranteeing that the strategy denying a man of his or her own freedom be sensible, reasonable and just. Second, the court perceived a few unstated freedoms that were inferred by Article 21. It is by this second strategy that the Supreme Court translated the right to life and personal liberty to incorporate the right to a wholesome environment.

It implies clear, hygienic, unpolluted environment which prompts an existence of respect. Natural debasement has appalling effect on right to vocation which is a part of the right to life. The main sign of the right to a wholesome environment might be followed to the **Dehradun Quarrying Case** the SC advanced another right to environment without particularly specifying it. The case was documented under Art. 32 of the Constitution and Orders were given with accentuation on the need to ensure nature. In **Ganga Pollution (Tanneries) Case**

while deciphering Art.21, **Singh J.** Legitimizing the conclusion of dirtying tanneries watched: "we are cognizant that conclusion of tanneries may bring unemployment, loss of income, yet life wellbeing and environment have more prominent significance to the general population".

### Brundtland Report

The most wonderful commitment of the Supreme Court has been the reception of the right to manageable improvement as an in-your-face guideline of ecological law in India. The idea of manageable improvement itself is similarly youthful. It initially showed up in the International Union for Conservation of Nature and Natural Resources (IUCN) Report of 1980 in admiration of world Conservation procedure. From that point, it was grabbed by the Report of the World Commission on Environment and Development in 1987, appropriately called the Brundtland Report. The report itself was the result of 900 days of pondering by a worldwide gathering of lawmaker, common hirelings and specialists on environment. The idea of reasonable advancement is in its earliest stages. Holmberg and Sandbrook recognized exactly 70 meaning of reasonable improvement. However an ordinarily acknowledged definition has been proposed by Mrs. G.H. Brudthland in her 1987 report. As indicated by her, reasonable improvement is the advancement that 'addresses the issues of the present without including the capacity of future era to address their own issues'. This definition has solid moral introduction centering upon the fulfillment of human needs instead of needs. It

doesn't lay accentuation on the insurance of environment when all is said in done. Numerous contemporary hippies are extremely disparaging of the idea of maintainable advancement since it licenses monetary development. Yet, the idea of feasible advancement has mass claim definitely in light of the fact that it is a catchphrase equipped for redundancy in 'a parrot like style by ecological strategy creators' The Supreme Court has however been mindful so as to recognize the idea of manageable improvement and its definition by Brundtland favoring not to fall for any given substance for the idea and therefore open the route for a dynamic meaning of maintainable improvement with a changing substance. In any event right now, it has evaded the need to go for any exactness. In a couple driving cases reasonable improvement has been received as the guideline of ecological law.

### Conclusion

The part of the Supreme Court as definite media-tor is progressively reflected in different judgments. The most imperative accomplishment of cutting edge law in India is the constitutionalization of natural issues by the zenith court of India. Indian natural statute, is accomplishing new measurements step by step. The different statuses have been translated in the light of the established plan identifying with projection and safeguarding of the indigenous habitat issue. Prior to the year of 1980 there were enactments about control of contamination however little had been done to truly make contamination control? Be that as it may, in present time the Supreme Court of India extends the significance of Environmental rights. The Supreme Court has

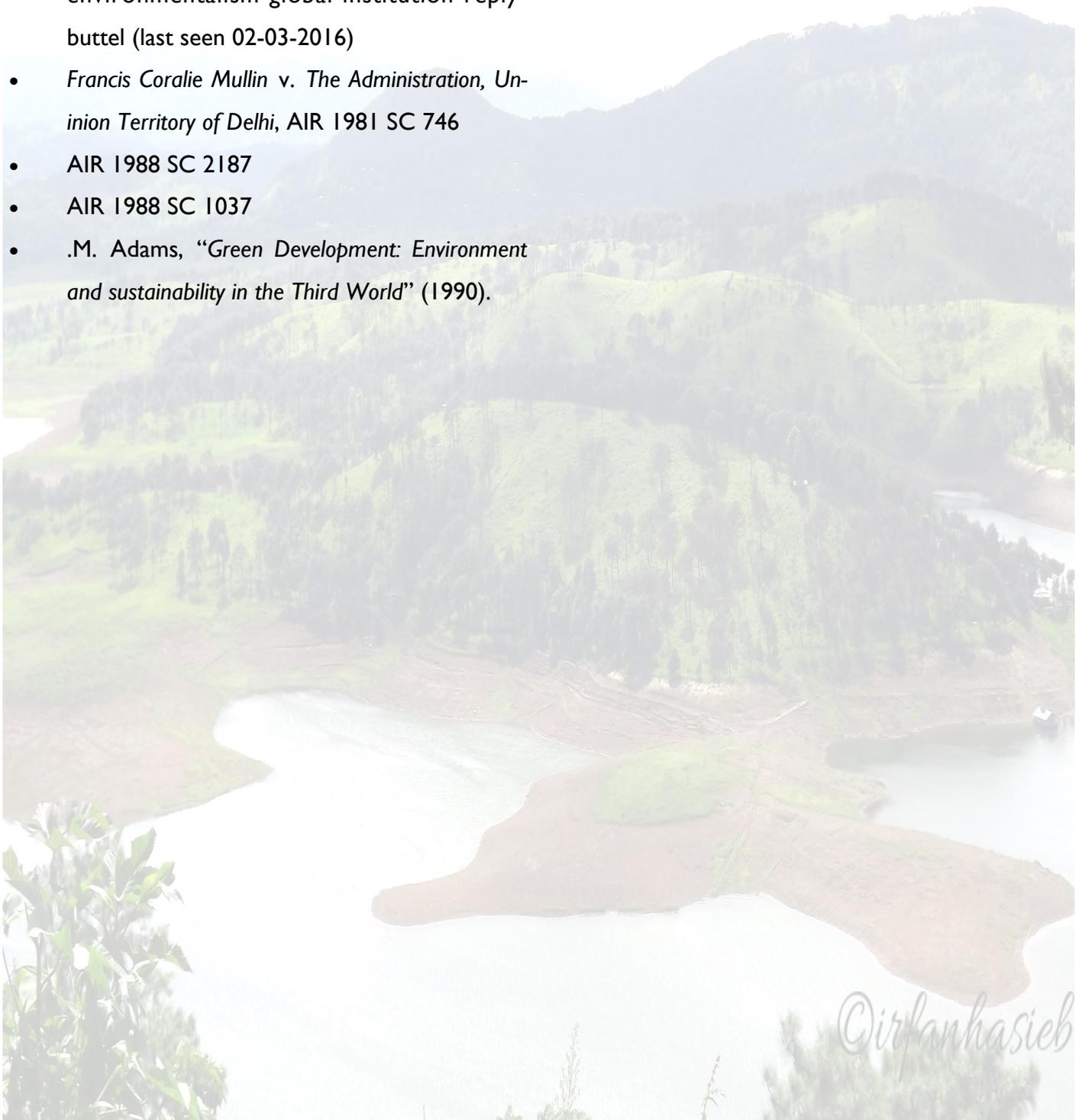
made an imaginative translation which prompted the formation of new rights. As under Article 21 this court has made new rights including the right to wellbeing and contamination free environment. It is currently a very much acknowledged suggestion in the vast majority of locales, that financial or monetary remuneration is a fitting and for sure a compelling and some of the time maybe that just suitable solution for reviewed of the builds up encroachment of the key right to life of a resident.

The activity out in the open law is viable in the most astounding courts of the area. When this cure gets to be accessible, one may witness spate of prosecution looking for protected tort solutions for infraction of crucial right to wholesome environment. In any case, that plausibility is still in the womb without bounds. There are numerous obstacles in transit. One amongst them is inadequate fortifying of case for regarding right to wholesome environment as a central right. The improvement, along these lines, is not yet finished. The future may witness developing of puzzles of the new major right. When this happens, we may hope to see fascinating advancements in the area of established statute.

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# PRECAUTIONARY APPROACH IN THE LAWS ON WASTE MANAGEMENT

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The precautionary principle states that action should be taken to prevent harm even if some cause and effect relationships are not fully established scientifically. The principle involves taking preventive action by the proponents of the activity in the face of uncertainty and exploring alternatives for possible harmful actions.

Industry and technology are necessary for the economic independence of the society, for alleviation of poverty and for scientific advancement in every arena of life. Health and well being of an individual cannot be neglected and it stands at the same parlance of technological and innovational advancement. Development of state includes the well-being of an individual along with technological and scientific advancement. If the basic amenities are not provided by the state, technological advancements cannot be said to be made in proper sense. The unscrupulous industrial discharge forms a major cause behind the denial of healthy environment. This discharge can be solid waste, nuclear waste, hazardous waste, e-wastes and likewise. The graveness relating to the issue of waste has outweighed the benefits by disadvantages. The increasing industrial accidents, new variety of diseases, lack of pure water, global warming, has made life miserable and vulnerable for flora and fauna as well.

There is an urgent need for balancing the development and environment. Here comes the relevancy of the principle of sustainable development. It means development without compromising the health and life of humans and animals. By applying the principle of sustainable development we can emerge a system where developmental activities can be possible without compromising the right to life of living beings. Waste management is primarily construed on the principle of waste production and disposal without affecting the ecology. Precautionary principle means one who causes the wastes must treat it at the root itself so that it does not adversely affect the living beings. The establishments must implement waste treatment plants in the industry itself. Under the precautionary approach, state can insist that treatment measures have to be taken and scientific uncertainty shall not be an excuse for not doing so. Financial inability also cannot be an excuse. State can take anticipatory measures to avoid pollution. So we can see precautionary principle is a shield to be protected from the threats of pollution primarily resulting from waste disposal and as the resultant danger to life.

## International legal landscape on Precautionary Principle

The precautionary principle is enshrined in many international conventions dealing with

environmental protection. Application of precautionary principle in waste disposal means treatment of wastes in the source itself. This obligation of maintaining waste treatment plant in the establishment itself has been casted upon the owner through many international documents. The responsibility to enforce the same is imposed upon the states also. The world charter for nature, 1982 may be the first document which explicitly lays down the Principle. It states that the discharge of pollutants into the natural systems shall be avoided and such pollutants shall be treated at the source and also calls to prevent discharge of radioactive or toxic wastes. For that purpose best available technologies shall be used. UN Conference on Environment and Development, 1989 recognized the importance of environmentally sound management of wastes and toxic chemicals and the consequent Earth summit in 1992.

The Rio Declaration on Environment and Development, 1992 was the result of Earth summit. This document explicitly lays down the principles of sustainable development including precautionary principle. State shall discourage the transfer of substances which cause severe environmental degradation and harmful to human health. States shall apply the precautionary approach and polluter shall bear the cost of pollution. Principle 15 clearly states that in order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. Basel

convention on the control of transboundary movements of hazardous wastes and their disposal, 1989 and its protocol on liability and compensation for damage resulting from trans-boundary movements of hazardous wastes and their disposal is another major convention which incorporates the precautionary principle in the management of disposal of hazardous wastes across different national jurisdictions. It also advocates minimizing the creation of such wastes.

The Johannesburg Declaration on Sustainable Development, 2002 mandates the states to take action to prevent and minimize wastes, promote reuse and recycling and ensure environmentally sound disposal facilities. It seeks to be achieved by 2020; use and production of chemicals in ways that lead to the minimization of significant adverse effect on human health and environment using transparent science based environmental risk assessment and management procedures taking into account the precautionary procedures. Most of the documents are declarations which are more like guidelines for the state and does not provide for the provisions for imposing the environmental accountability of the private enterprises or multinational corporations. The documents are silent over the practical side of the problem in enforcing the liability of the state and the polluter.

### **National legal landscape on waste management**

The following are the domestic legal framework which deals with the waste management. S.133 to S.144 Code of Criminal Procedure, 1973 makes a provision for the citizens,

who can approach the magistrate for removing a public nuisance which includes wastes. Public authorities can be compelled to take action for preventing the harmful effects of wastes

By virtue of S. 91, Code of Civil Procedure, 1908 a civil action by Advocate General or by two or more members of the public with the permission of the court is possible for a declaration or an injunction against public nuisance.

Under The Factories Act, 1948 effective arrangements shall be made in every factory for the treatment of wastes and effluents. The occupier of every hazardous unit must disclose to her workers the Factory Inspector the local authority and the general public in the vicinity all particulars regarding health hazards at the factory, and the preventive measures taken.

The regulation of nuclear energy and radioactive substances in India is governed by the Atomic Energy Act of 1962, and the Radiation Protection Rules of 1971. Under the Act, the Central Government is required to prevent radiation hazards, guarantee public safety and the safety of workers handling radioactive substances, and ensure the disposal of radioactive wastes. The central govt. have powers to declare any area as prohibited area where any work relating to atomic energy is carried on and to provide for control over radioactive substances or radiation generating plant in order to ensure safe disposal of radioactive wastes among other things. The Govt. may provide rules prescribing the conditions and criteria for location of any installation or operation of any plant for protection against radiation and safe disposal of harmful by products or wastes. There are many

laws which directly deal with the management of different kinds of wastes.

### **Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2016**

Under these rules, responsibility is casted upon both the occupier of the establishment generating the waste and the State to prevent, minimize, reuse, recycle, recover, utilize, and safely dispose hazardous wastes. The occupier shall take all the steps while managing hazardous and other wastes to contain contaminants and to prevent accidents and limit their consequences on human beings and the environment. The persons working in the site should be given appropriate training, equipment and the information necessary to ensure their safety. Import of hazardous wastes to India is prohibited except for certain purpose. Treatment, storage and disposal facility shall be provided by the state in cooperation with occupiers. The authorization of Govt. and State pollution control board is required for the treatment of waste and the Board can withdraw authorization if the provisions are not complied with.

### **Bio-medical Waste (Management and Handling) Rules, 2016,**

It applies to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste whether it is state or private enterprise. Every occupier shall handle bio-medical waste without any adverse effect to human health and the environment, and immunize all its health care workers and others, involved in handling of bio-medical waste. They shall pre-treat the laboratory waste, microbiological waste, blood

samples and blood bags through disinfection or sterilization on-site. Different types of waste shall be segregated before it is transported to the common biomedical waste treatment facility which is to be established by the Govt. The bio-medical waste shall be segregated into containers or bags at the point of generation itself.

### **The Plastic Waste (Management and Handling) Rules, 2016.**

These rules apply to every waste generator, local body, Gram Panchayat, manufacturer, Importers and producer. There are restrictions put on using certain plastic for packing food stuffs and pharmaceuticals. It shall not be less than 50 microns. Here also responsibility is put on government as well as the occupier. Elaborate guidelines are provided for the disposal of plastic wastes. Permission of the state pollution control board is also necessary for the waste collection and disposal by the agency. The restrictions provided in rules shall not apply to the export oriented units or units in special economic zones, notified by the Central Government, manufacturing their products against an order for export.

### **The E-waste (Management and Handling) Rules, 2016,**

They apply to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, refurbishing unit, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste. Authorization by the State must be obtained for generation, handling, collection, reception, storage, transportation, refurbishing, dismantling, recycling,

treatment and disposal of e-waste. The Rule provide for 'Extended Producer Responsibility' which means responsibility of any producer of electrical or electronic equipment, for channelization of e-waste to ensure environmentally sound management of such waste. It comprise of implementing take back system or setting up of collection centers. The producer may set up his own collection centre or implement take back system or both to meet Extended Producer Responsibility. The import of electrical and electronic equipment shall be allowed only to producers having Extended Producer Responsibility authorization. State Government shall ensure industrial space or shed for e-waste dismantling and recycling in the existing and upcoming industrial park, estate and industrial cluster. The producer shall reduce the use of hazardous substances in the manufacture of electrical and electronic equipment.

### **Construction and Demolition Waste Management Rules, 2016.**

It is an addition to municipal solid waste management rules. Here waste generator means any person or association of persons or institution, residential and commercial establishments including Indian Railways, Airport, Port and Harbor and Defense establishments who undertakes construction of or demolition of any civil structure which generate construction and demolition waste and includes service providers. They shall prima-facie be responsible for collection, segregation of concrete, soil and others and storage of construction and demolition waste generated, and shall ensure that other waste (such as solid waste) does not get

mixed with this waste and is stored and disposed separately. Waste generators shall submit waste management plan and get appropriate approvals from the local authority before starting construction or demolition or remodeling work. The wastes can be collected within the premises or in collection centers. The service providers shall remove all construction and demolition waste and clean the area every day.

### **The Municipal Solid Wastes (Management and Handling) Rules, 2000**

It applies to every municipal authority responsible for collection, segregations, storage, transportation, processing and disposal of municipal solid wastes. The waste shall be collected at the land filling sites which means disposal of residual solid wastes on land in a facility designed with protective measures against pollution of ground water, surface water and air fugitive dust, wind-blown litter, bad odour, fire hazard, bird menace, pests or rodents, greenhouse gas emissions, slope instability and erosion. The responsibility is cast upon municipal authorities and operator of a facility, i.e., persons who owns or operate a facility for collection, segregation, storage, transportation, processing and disposal of municipal solid wastes. The landfill site shall be away from habitation clusters, forest areas, water bodies monuments, National Parks, Wetlands and places of important cultural, historical or religious interest, airport including airbase. Necessary approval of airport or airbase authorities prior to the setting up of the landfill site shall be obtained in cases where the site is to be located within 20 km of

an airport or airbase. The site shall be improved in every 5 years.

### **Conclusions and suggestions**

An overview of the waste management laws show that they are based on precautionary principle. It envisages authorization from the part of State for collection and treatment of wastes and mainly deals with elaborate guidelines as to the criteria for treatment of wastes. But on the downside many restrictions laid down in these laws do not apply to the establishments in the special economic zones. The penalties provided are meager and ambiguous. There are no monitoring authorities by the govt. to check the proper implementation of the provisions. Most importantly these laws only deal with the methods of treatment of the wastes once it is generated. But the application of precautionary principle will be more effective only when the waste generated is the minimum possible. Hence for the fruitful implementation of the precautionary principle the process of manufacture should result in minimum waste production. Experiments should be directed to create such alternative innovative techniques of production which generates lesser waste. There is no provision which deals with this aspect in our laws. The implementation sides of the existing laws are pathetic because the lack of determination of both the Govt. and the occupier make it toothless. Most of the waste collection centers are near human settlements only when the law prescribes otherwise and the technology used for treatment are obsolete. The profit motive and the lack of environmental accountability resulted in accidents and irretrievable damage to

the environment and health of the people. There are no existing laws which enforce the environmental accountability of multinational corporations in India.

Governments should establish or modify standards or purchasing specifications for recycled materials and ensure that they are environmentally sound. Governments with the help of multilateral cooperation should provide economic support to promote innovation towards cleaner production methods and to make waste minimization investments. Research on cost-effective alternative for processes and substances that result in the generation of hazardous wastes aiming at the ultimate phase-out of those substances should be carried out. Transfer of sound eco-friendly technologies to developing countries for low-waste production leading to cleaner production shall be promoted. As far as possible the waste shall be treated at the source itself. No establishment shall be allowed to operate without implementing the waste treatment mechanism.

Industry should establish environmental management systems including environmental auditing of its production or distribution sites in order to identify where the installation of cleaner production methods is needed. Emphasis must be upon methods of production which create lesser waste. Collection and dissemination of information for creating public awareness must be compulsorily carried out. The monitoring mechanism by the state must adopt 'cradle to the grave approach', thereby, concentrating upon every stage of waste generation and treatment. The measures required to clean up the disposal sites are also not provided.

The penalties for the violators shall be grave and their license shall be cancelled instantly which will act as a deterrence. Govt. shall encourage the use of recyclable materials, promote civic obligations associated with waste reuse and recycling in school curricula and relevant general educational courses. For this state can obtain cooperation from NGO's, community organization etc. The precautionary principle is the best approach in preventing the harmful effects of waste upon the environment. Therefore, there is a need for an efficient legislations and set of rules in this regard are required and proper implementation of them at the ground level.