

INSIGHTS ON SCOPE AND LIMITATIONS OF ENVIRONMENTAL REGULATIONS IN INDIA AND INTERNATIONAL DISCOURSE

Written by **Shreyashi Sah*** & **Deepika Kulhari****

* LL.M., Faculty of law, University of Delhi, Delhi, India

** Assistant Professor, JECRC University, Rajasthan, India

INTRODUCTION

In the words of Mahatma Gandhi “we should act as trustees and use natural resources wisely as it is our moral responsibility to ensure that we bequeath to the future generations a healthy planet.”

The maxim *sic utere tuo ut alieum laedas* means to enjoy your property without injuring your neighbour. According to this maxim every state has a right to exploit their resources the way they want but it does not have a right to transfer the burden of exploiting its resources onto other nations in terms of transboundary pollution, nuisance etc. International Law on Climate Change is a very comprehensive culmination of instruments, conventions, treaties, conferences, reports and legislations. The present situation of climate change is very alarming, sudden changes in weather conditions, extreme heat or cold, recurring natural disasters. The main causes of serious risk created to human beings, flora and fauna and the earth are continuous growth of population; unbridled exploitation of natural resources, demand of new technological innovation. One of the most controversial debate surrounding it is that of development which is an inevitable part of the society, it should be done keeping in view of not causing adverse effect on the environment.ⁱDevelopment without environment is a short term goal, hence development should be sustainable but history has been an evidence of unsustainable pattern of development especially when transformation of developing countries was done, from agricultural to industrial economy.ⁱⁱ

Due to overexploitation of the environment its regenerative capacity was done away with. The ever-increasing population has also posed too much pressure on the environment. Only when environment causes an adverse effect on us do we tend to think about ways to protect and preserve it. It is high time to recognize the concept that environment as an entity and it should also have a right to be protected and conserved.

I. OVERVIEW OF THE INTERNATIONAL CONVENTIONS ON CLIMATE CHANGE

The issue of climate change, resources depletion and unsustainable pattern of development started after World War II, during the phase of initiation of industrialisation. Till 1960s no conscience had developed to protect the environment on an international level. This was also a phase of transformation of developing countries from agricultural to industrialised economies. At this time Earth's natural system came under great pressure and environmental problems like ozone depletion and global warming became critical and sensitization started as to this problem could not be curbed at a national level. United Nation Conference on Human Environment, 1972 was the first conference on Human Environment held in Stockholm to discuss problems related to environmental pollution on a global level. This conference marked a beginning of an organized international effort to safeguard environment and promote economic development on the pattern of sustainable development. This conference was a Magna Carta for any environmental issue and regarded as a "foundation of modern international environmental law."ⁱⁱⁱ This conference also marked a turning point in the development of international environmental politics.⁴ The framework for environmental co-operation did not initially gained acceptance as Soviet bloc countries had initially boycotted it but subsequently this conference gained acceptance at the International Stature through subsequent environmental diplomacy. This conference stimulated broader political and institutional change as the government created ministries for environment development and network for international non-government organizations. The second most important report after Stockholm Conference was the Report of World Commission on Environment and Development, Our Common Future popularly called as the Brundtland Report, 1987. This report gave birth to the concept of sustainable development which means "development that meets the needs of the present without compromising the ability of the future generation to meet their own needs". Hence

sustainable development imposes limitation upon the present generation to use their resources in a sustainable and not a greedy manner. Sustainable Development^{iv} is not a fixed state of harmony but a process of change for exploitation of resources by the present generation. The aim of the report was for the state to achieve maximum economic growth by sustainably exploiting the resources. The main focus of the report was to establish a balance between environment, economy and society. Earth Summit was held five years after Brundtland Report, 1987^v to review the success of the convention. It gave suggestion for set up of a World Environment Court to settle international environment disputes. After 10 years again world summit was conducted to review further achievement and it was the biggest conference ever as 21000 participants from NGO, private sector, civil society and various government officials participated and two documents were adopted in this summit namely “Johannesburg Plan of Implementation and Johannesburg Declaration on Sustainable Development” which laid down the basic requirement for water, sanitation, shelter, energy, healthcare, food security and bio-diversity.^{vi}

Twenty years after the summit again a conference was held that deliberated upon the Rio outcome to be achieved titled “The Future We Want” to strengthen the “United Nation Environment Program” with a feature of universal membership for all the nations and to constitute an open working group for all its members. It also propounded a set of recommendations of the United Nation Secretary General to consider a set of recommendation for a facilitation mechanism which promotes development, transfer of clean technology. The Vienna Convention for the Protection of Ozone Layer held in the year 1985 aimed to^{vii} develop scientific knowledge of the ozone layer and prevent its possible adverse effect on the environment and adopt legislative and administrative measures to control activities of human that in turn affect to deplete ozone layer.^{viii} India ratified this convention on 18th March, 1991. This convention also called as the framework convention is the precursor to the Montreal Protocol as it did not require countries to take concrete actions to control ozone depleting substances. Thus, parties to the convention agreed to promulgate Montreal Protocol on Substances that Deplete the Ozone Layer^{ix} to advance that goal. This protocol¹¹ was entered in the year 1989 and was formulated to phase out production of various substances that deplete the ozone layer. It has been one of the most successful protocols to reduce emission of substances that deplete ozone layer by 90%. As a result of this protocol the ozone hole in Antarctica

is slowly recovering and till 2050 to 2017 it will be back to its level achieved in 1980. As quoted by Kofi Annan that due to exceptional cooperation shown by various countries the “Montreal Protocol on Substances that Deplete the Ozone Layer, 1987”¹² is the most successful international agreement till date. It has aimed to prevent about cases of skin cancer of 2 million people.^xThis protocol was signed by India on 19th June, 1992. This protocol mainly aims to prevent production of chloro fluoro carbon, as CFC is 300 times more damaging than carbon dioxide for global warming. Hence the shift is from CFC to hydro chloro-fluoro carbon.

In the year 1992, United Nation Conference on Environment and Development ^{xi} was held at Rio de Janeiro in Brazil, it was formulated to achieve international consensus for protection of environment and sustainable development. It is the largest United Nation Conference held in which 178 nations participated. This conference¹⁵ emphasized to rethink about how our lives have affected natural environment and how to confront to new environment and save the same. This conference was inspired by Brundtland Report of the year 1987 which forced people to rethink as to how their lives affected the environment.¹⁶ The conference adopted the following five specific documents¹⁷- a) Agenda 21; b) Declaration on principles on forest conversation; c) Biodiversity Convention; d) Climate Convention, e) Rio Declaration on Environment and Development. The Rio Declaration on Environment and Development held in the year 1992¹⁸ is a culmination of 27 principles that defines rights and responsibility of states in relation to environment. The first principle^{xii} of the declaration states that human beings are centre for sustainable development to ensure a healthy and productive life. The second principle^{xiii} states that it is the duty of the states while exploiting the resources to not cause harm to the environment. The third principle²¹ states the definition of sustainable development which recognizes the principle of inter-generational rights. The fourth principle^{xiv} states for sustainable development environmental protection is necessary. The fifth principle^{xv} states that for eradication of poverty sustainable development is necessary and all the countries should cooperate to remove the problem of poverty from developing countries. The ninth principle^{xvi} relates to transfer of scientific knowledge for sustainable development. The tenth principle²⁵ requires participation of all to protect the environment from various sources of pollution. The eleventh principle²⁶ requires states to enact effective environmental legislation. The thirteenth principle^{xvii} requires states to develop a national

law relating to liability and compensation for victims of pollution and environmental damage. The fourteenth principle²⁸ requires states to help Open International Economic System for economic growth and sustainable development to prevent environmental degradation. The fifteenth principle^{xviii} gives the concept of precautionary principle to prevent threat of serious or irreversible damage then lack of scientific certainty should not be used as a reason for postponing cost effective measures to prevent environmental degradation. The sixteenth principle^{xix} gives the concept of polluter pays principle in which it is the duty of national authorities to promote internalization of environmental costs and use of economic instruments wherein the polluter bears the cost of pollution with due regard to public interest without distorting international trade and investment. The seventeenth principle^{xx} gives the concept of Environmental Impact Assessment for activities that will have adverse impact on the environment. The twenty fourth principle^{xxi} relates to the fact that warfare is destructive and states respect international law to provide protection to environment during armed conflict and be co-operative in its further development. The twenty fifth principle^{xxii} states that peace, development and protection are interdependent and indivisible concepts to be achieved sustainable development. The twenty seventh principle³⁴ states that states should cooperate to achieve principles embodied in the declaration. Agenda 21^{xxiii} is a blueprint on global actions related to sustainable development. This agenda intended to provide a local, national, regional and global action of the 21st century bearing a comprehensive blueprint of governmental action to be taken on a wide range of activities. This agenda proposes a group of action intended to be implemented by each human being on earth. These actions are specific goals for sustainable use of global natural resource and effective management of solid, liquid and gaseous waste products for the achievement of basic standard of living.^{xxiv} The preamble to Agenda 21 states that international co-operation is needed to achieve sustainable development, achieve global consensus and political commitment at the highest level This agenda covers seven themes namely a) quality of life on earth; b) efficient use of earth's natural resources, c) protection of Global Common, d) management of waste and chemicals; e) sustainable Economic Growth, f) implementation of Agenda 21. Agenda 21 is divided into seven sections, the first section deals with Economic and social dimensions. It talks about international cooperation amongst developing countries to eliminate poverty, reduce demographic dynamics and stable changes occurring in consumption pattern. The second section deals with Conservation and Management of Resources like fragile

ecosystem, sustainable agriculture, ocean, radioactive substances should be conserved and managed effectively and strengthen role of major groups like women, youth, children, indigenous people, non-governmental organizations, workers and trade unions. The fourth section deals with means of implementation of financial resources, environmentally sound mechanism and technology.

United Nation Convention on Climate Change was held in the year 1992^{xxv} is the most important convention on climate change. It is the first attempt to stop global warming as Article 2 of this convention^{xxvi} talks about stabilizing concentration of greenhouse gasses at a level to prevent its interference with climate change through gradual reduction of greenhouse gasses.^{xxvii} It is a broad blueprint of principles of financial commitments based on respective and appropriate burden sharing equity. The wealthier nations have to contribute more to share the burden of undoing the harm done to the environment. Also developed countries are financially strong and have environmentally sound technologies. The drawbacks of UNFCC are that it does not set any target or timetable for actions of the state to reduce emission of carbon dioxide. This convention was signed by India on Nov. 1st 1993. Kyoto Protocol, 1997^{xxviii} was adopted by 189 states at 3rd session of the Conference of Parties at UNFCC. It was entered on 11th Dec. 1997 and enforced on 16th Feb 2005. The first commitment period of this protocol was from 2008-2012 and the second one is from 2013 to 2020.^{xxix} It was signed by India in the year 1997. It is an international agreement linked to UNFCC to set binding obligation on industrialized countries to reduce emission of greenhouse gasses.^{xxx} It had made developed countries responsible for the current level of greenhouse gas emission in the atmosphere as they have been a part of more than 150 years of industrial activity and heavier burden is imposed upon them due to common but differentiated responsibility. The objectives of this protocol were to achieve stabilization of level of greenhouse gasses at a level to prevent anthropogenic interference with climate system within a time frame to allow ecosystem to adapt to climate change,^{xxxi} to ensure that food production is not threatened and to enable economic development in a sustainable manner. The guiding principle behind the protocol is Article 3 of Framework of Convention on Climate Change^{xxxii} which are- a) to ensure its benefit to present and future generation; b) to ensure principle of equity amongst nations; c) to

ensure that principle of common but differentiated responsibility is adhered to according to the respective capability of nations.

The Convention has three mechanisms namely- a) Emission Trading prescribed under Art.17 which means that nations that have not used their emission units are allowed them to sell it over to the countries which have used their emission units above their allowed limits; b) Clean Development Mechanism prescribed under Art.12 which means that this mechanism permits nations with emission reduction or limitation commitment under Kyoto Protocol to execute emission reduction projects in developing countries and c) Joint Implementation prescribed under Art. 6, this implementation technique permits nations with emission reduction or limitation commitment under Kyoto Protocol to earn emission reduction units. The developing countries even which do not have a binding protocol under Kyoto Protocol are still required under the treaty to be committed under the treaty to reduce their emission levels so that they can comply to the emission standards set for developing nations. The major objective for Kyoto Protocol is to switch over to and support renewable energy, improve energy efficiency and reduce deforestation.

The United Nation Convention on Climate Change divided the world into two categories, in the first category came developed countries with historic responsibilities listed under Annexure I of the UNFCCC document. The second category comprised of of Non-annexure countries i.e. those countries which do not have any historic responsibilities.⁴⁵ The Kyoto protocol under common but differentiated responsibility had assigned Specific Emission Targets for annexure I countries setting higher burden on the developed countries as they have responsible for polluting the environment since the beginning of industrial revolution. Hence, they had a greater burden of share towards pollution of atmosphere, warming of the planet and bear a greater responsibility to mitigate the impacts of global warming. Two Constituents of Common but Differentiated Responsibility are - a) For the shared common resources there is a shared responsibility of all the nations to accelerate their efforts to render the harmful effects of pollution caused by them to be undone within a prescribed period of time; b) Differentiated responsibility refers to variations in economic, social and technological abilities of the developed states bearing a greater responsibility upon them to lead the fight against climate change.^{xxxiii}

The target set under Sec. 3(1) of Kyoto Protocol was that developed countries had to reduce their emission of greenhouse gas by 5% below 1990 level, this was to be achieved under a commitment period of 2008-2012 but developing countries did not have any such obligation during this commitment period but in practice different nations at that time adopted different commitment periods according to their own capability. The Kyoto Protocol also provided for a “Global Environment Facility and Adaptation Fund” to help developing countries in mitigation and adaptation of new techniques to reduce their level of emission of greenhouse gasses. Hence Kyoto Protocol gave a commitment period to countries to limit or reduce their level of greenhouse gas through national measures and through a market based mechanism tool called carbon credit.

Another important climate change conference of the recent times is the Lima Climate Change Conference held in December 2014 to invite developing country parties and least developed country parties to communicate the outcomes and process of formulation along with implementation of National Adaptation Plan on climate change.⁴⁷ It reiterated that the national adaptation plan process is a country-driven, gender sensitive, participatory and fully transparent approach. It should consider vulnerable groups, communities and ecosystems on the basis of and guided by the best available science and, as appropriate, traditional and indigenous knowledge. Parties must view to integrate adaptation into relevant social, economic and environmental policies and actions. Government of India has published a National Action Plan for Climate Change with eight National Missions in 2008 as a response to the multilateral negotiations in UNFCCC for climate change.^{xxxiv}

To change from the concept of common but differentiated responsibility to a shared responsibility of all the nations Paris agreement^{xxxv} was held between the time periods from 30th November 2015 to 12 December 2015. It was the result of 4 year negotiating round that started in Durban in year 2011. A total of 175 countries including India signed this agreement on its opening day 22nd April 2016 popularly known as the Earth Day.^{xxxvi} This agreement has done away with the requirements of common but differentiated responsibility i.e. making every country responsible for its role towards cleansing the environment. It adopts a common framework for every country to produce their best efforts to reduce their level of emission and report regularly regarding it through a mechanism of international review. The thing so unique about this agreement is that

every country should participate irrespective of its financial status with the developed nations taking the lead position. It does not mention historic responsibility of the developed nations; hence the obligation to save the environment is based on the principle of equity. This agreement postulates Common based historic, current and future responsibility.^{xxxvii} This agreement aims to hold increase in global average temperature to well below two degree Celsius above pre industrial levels to decrease the impact of emission of greenhouse gases in the atmosphere so that climate change is not affected to much of an extent. The global peaking emission in this agreement is based upon the principle of equity and sustainable development. This agreement also focusses on measure to eradicate poverty which is one of the main causes for degradation of the environment. Every country in this agreement has its own Intended Nationally Determined Contribution for each country to prepare its own roadmap for climate change post 2020. India has submitted its 10 year Intended Nationally Determined Contribution to be followed and achieved in between period 2021-2030. This agreement aims to provide multilateral climate funds to procure for developing countries necessary amenities to achieve a stable climate change effect. It also has a very transparent mechanism for developed nations to provide information regarding technology and other mechanism to achieve the goals of Paris Agreement to the developing countries through National Biennial Update Reports subject to international review and assessment. There is also a provision of green finance for sustainable development projects through greening banking system, bond market and institutional investment. International carbon markets have also developed for trading in carbon emission.

II.

III. CONVENTION ON LONG-RANGE TRANSBOUNDARY AIR POLLUTION WAS HELD IN YEAR 1979-PRINCIPLE

21 of the Stockholm Declaration^{xxxviii} provides that States have “the responsibility to ensure that activities under their jurisdiction and control do not cause damage to the environment of other States or of areas beyond national jurisdiction”. Addressing issues largely in response to well publicized crises, international conventions have been developed to address issues such as long-

range transboundary air pollution, protection of the ozone layer, notification and cooperation in response to nuclear accidents, transboundary movement of hazardous waste and global climate change. Thus Long-range transboundary air pollution was first addressed in Europe by the Geneva Convention (Convention on Long-Range “Transboundary Air Pollution”^{xxxix}) in the year 1979. This was a framework convention whose modestly expressed aims were “to limit and, as far as possible, gradually to reduce and prevent air pollution including long range transboundary pollution”. Currently, the Convention's priority activities include review and possible revision of its most recent protocols, implementation of the Convention and its protocols across the entire UNECE region (with special focus on Eastern Europe, the Caucasus and Central Asia and South East Europe) and sharing its knowledge and information with other regions of the world. Substantive progress in regulating emissions of specific substances was made only with the development of the protocols and they are as follows- a) Protocol on Long-Term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) (1984); b) Helsinki Protocol on the Reduction of Sulphur Emissions (1985); c) Nitrogen Oxide Protocol (1988); d) Volatile Organic Compounds Protocol (1991); e) 1994 Oslo Protocol on Further Reduction of Sulphur Emissions; f) Protocol on Heavy Metals (1998); g) Aarhus Protocol on Persistent Organic Pollutants (1998); h) Gothenburg Protocol to Abate; i) Acidification, Eutrophication and Ground-level Ozone (1999).

The Helsinki Protocol^{xi} to the 1979 Convention on Long-Range Transboundary Air Pollution on the Reduction of Sulphur Emissions or their Transboundary^{xli} Fluxes by at least 30 per cent is a 1985 protocol to the Convention on Long-Range Transboundary Air Pollution agreement that provided for a 30 per cent reduction in sulphur emissions or transboundary fluxes by 1993. The protocol has been supplemented by the 1994 Oslo Protocol on Further Reduction of Sulphur Emissions.

The Oslo Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution on Further Reduction of Sulphur Emissions^{xliii} is an agreement to provide for a further reduction in sulphur emissions or transboundary fluxes.^{xliiii} It is a protocol to the Convention on Long-Range

Transboundary Air Pollution and supplements the Helsinki Protocol on the Reduction of Sulphur Emissions (1985).

Nitrogen Oxide Protocol, 1988^{xliv} was formulated under the convention concerning the Control of Emissions of Nitrogen Oxides⁵⁹ or their Transboundary Fluxes in Sofia on 31 October 1988. The Protocol requires Parties to control or reduce emissions of nitrogen oxides. The Executive Body amended the Protocol in 1996. The amendment concerns the technical annex on control technologies for emissions of nitrogen oxides from off-road vehicles and machines, ships and aircraft. Emissions of nitrogen oxides are also addressed under the 1999 Gothenburg Protocol to Abate Acidification, Eutrophication and Ground-level Ozone.

Volatile Organic Compounds Protocol, 1991^{xlv} is a protocol which aims ^{xlvi} to provide for the control and reduction of emissions of volatile organic compounds in order to reduce their transboundary fluxes so as to protect human health and the environment from adverse effects.

The protocol was concluded at Geneva, Switzerland.

The Aarhus Protocol of Persistent Organic Pollutants^{xlvii}, a 1998 protocol on persistent organic pollutants, is an addition to the 1979 Geneva Convention on Long-Range Transboundary Air Pollution. The Protocol seeks "to control, reduce or eliminate discharge, emissions and losses of persistent organic pollutants" in Europe, some former Soviet Union countries, and the United States, in order to reduce their transboundary fluxes so as to protect human health and the environment from adverse effects. The protocol was amended on 18 December 2009, but the amended version has not yet come into force. This protocol has been ratified by 31 states and the European Union. Kofi Annan has quoted that Aarhus Convention, "although regional in scope, its impact is global and is the most impressive elaboration of principle 21 of Rio Declaration."^{xlviii}

In the year 1999, Gothenburg Protocol to Abate Acidification, Eutrophication and Groundlevel Ozone^{xlix} (known as the Multi-effect Protocol or the Gothenburg Protocol)⁶⁵ was held. It is a multi-pollutant protocol designed to reduce acidification, eutrophication and ground-level ozone by setting emissions ceilings for sulphur dioxide, nitrogen oxides, volatile organic compounds and ammonia to be met by 2010. This protocol had been ratified by 26 parties, which includes 25

states and the European Union. The geographic scope of the Protocol includes Europe, North America and countries of Eastern Europe, Caucasus and Central Asia.

IV.

V.

VI. STATUS OF INDIA'S RATIFICATION ON THE ABOVE MENTIONED CONVENTIONS

The United Nation Convention on Climate Change (1992) was signed by India on 1 November 1993, the purpose for ratifying this convention was to stabilize the concentration of greenhouse gasses at a level to prevent its interference with climate change through gradual reduction of greenhouse gasses. In pursuance of it the Kyoto Protocol was ratified by India in the year 1997, this protocol was formulated with the purpose to set binding obligation on industrialized countries to reduce emission of greenhouse gasses as they have been responsible for the current level of greenhouse gas emission in the atmosphere due to more than 150 years of industrial activity. India has also signed United Nation Convention on Biological Diversity on 5th June 1992 and ratified it on 18th February 1994 and has enacted The Biological Diversity Act, 2002 in pursuance of it for preservation of biological diversity. The Agreement in Paris was held in the year 2015, India signed this agreement on its opening day 22nd April 2016. It has laid an obligation for every country to formulate its own Intended Nationally Determined Contribution to prepare a roadmap to combat adverse effect on climate change post 2020.

Paris Agreement was held in the year 2015, a total of 175 countries including India signed this agreement on its opening day (22nd April 2016). This agreement has done away with the requirements of common but differentiated responsibility, making every country adopt a common framework to produce best efforts to reduce their level of emission and report regularly through a mechanism of international review. India has submitted its 10 year Intended Nationally

Determined Contribution plan to be followed and achieved in between period 2021-2030 in pursuance of this agreement. Government of India has under this plan decided revisit the National Missions under the National Action Plan on Climate Change (NAPCC), set up a new missions on Wind Energy, Health, Waste to Energy, Coastal Areas redesigning the National Water Mission & National Mission on Sustainable Agriculture, National Smart Grid Mission, Nationwide Campaign for Energy Conservation, Smart Cities Mission, Make in India campaign and introduction of the concept of National Air Quality Index to give status of pollution in a given city.

India has not ratified Convention on Long Range Transboundary Air Pollution, 1979 but needs to do so as it relies heavily on coal for energy, and sulphur dioxide is emitted from coal-fired power plants and industry is a major pollutant contributing factor causing air pollution. The routine pollutants in found in urban atmosphere of India include sulphur dioxide, nitrogen oxides and suspended particulate matter. Besides, there is a severe threat from a range of other air toxins such as carbon monoxide, small particulate emissions, lead, benzene, poly cyclic aromatic hydrocarbons (PAH) and ozone. Satellite observations used by NASA show that on a comparative basis since 2007, emissions in China have declined by 75% while those in India have increased by 50%. With these changes, India is now surpassing China as the world's largest emitter of anthropogenic sulphur-dioxide. India has already surpassed the United States in 2010 to become the world's second largest emitter of sulphur dioxide, after China, according to emission estimates previously published by Lu and scientists from universities and the U.S. Environmental Protection Agency. That same research showed that about half of India's emissions come from the coal-fired power sector. In India about thirty three million people now live in areas with substantial sulphur-dioxide pollution.¹ The analysis of data captured by an instrument on

NASA's Aura satellite has found that emissions from Indian power plants have increased by more than 60% from year (2005 to 2012).⁶⁷

VII. PROBLEMS WITH REGARD TO PREVALENT PROBLEM OF CLIMATE CHANGE

The first problem with respect to climate change is that of immense population growth that poses immense burden on the available natural resources thus rendering the regenerative capacity of the environment redundant. The energy intensive production technologies and prospective consumption patterns is facilitating higher consumption of commercial and biomass energy leading to high emission of carbon dioxide in the atmosphere making it a predominant factor for climate change. Thus a slow and gradual growth in population is the need of the hour so that pressure on natural resources gets decreased slowly with pace of time. The second hindrance is the level of poverty in developing and underdeveloped countries, poor people have unsustainable patterns of lifestyle and consumption, an illustration of it is the traditional, solid fuel-burning chulhas that emit smoke, tribal people going deeper into the jungle to sustain their lifestyle thereby cutting trees. Indira Gandhi speech in the Stockholm Conference included the following precept “out of all the pollutants we face the worst is poverty, we want more development”. Poverty should be reduced so that the needs of people can be met through new technological methods that are cleaner in terms of causing pollution than the traditional ones.^{li} The third problem is that policies formulated by the government are developed with top to down approach without considering the root level situation. People should make the government to develop the policies.⁶⁹ History shows that the Acts, laws, rules prepared are theoretically paramount but fails in implementation, lack of willingness of authorized agencies, the reasons behind it are lack of awareness in community regarding it, topographic cultural and economic variations of the country, public participation etc. Thus, every policy in future being drafted should be reasonable, time consumption in judicial responses on environmental issues should be less because by the time the case is decided the effects of pollution on the environment becomes manifold. Hence there is a crucial need of proactive, participatory, time bound decisions making system to deal with environmental issues in India. Finally, public participation and awareness on environmental legislation, policies, rules and regulations is necessary to convince people to protect environment and control pollution to safeguard their health, else best legal pronouncement and administrative measures would remain only in books. Participation of media and judiciary is also very important to create awareness about the recently enacted statutes and judgments to safeguard the concept of

social justice. At last a change in the lifestyle of the people is very much needed: reduced use of non-biodegradable plastics, reduced vehicular pollution through use of vehicles that are equipped with latest technology, use of air- conditioners and refrigerators that have energy saving capacity and increase green cover in and around time to make our Indian cities healthier and more breathable.

VIII.

IX. CONCLUSION

The inception of world's effort to tackle climate change started when it gathered in United Nation Conference on Human Environment held in Stockholm (Sweden) in the year 1972. This conference marked a beginning of an organized international effort to safeguard environment and promote economic development on the pattern of sustainable development and it marked as a turning point in the development of international environmental politics.^{lii} The second most important international instrument in the field of environmental law is the Brundtland Report of the 1987 as it brought the concept of sustainable development, imposing limitation upon the present generation to use their resources in a sustainable manner. The main focus of the report is to establish a balance between environment, economy and society.^{liii}

United Nation Convention on Climate Change, 1992 was signed by India in the year 1993 stabilizing concentration of greenhouse gasses at a level to prevent its interference with climate change. In pursuance of it Kyoto Protocol, 1997 was adopted which gave the concept of common but differentiated responsibilities countries setting higher burden on the developed countries for abatement of emission of their carbon content as they have responsible for polluting the environment since the beginning of industrial revolution.^{liv} The responsibility was differentiated also because every country has variation in their economic, social and technological abilities. Thus through this concept developing countries only had a duty and not an obligation to reduce their carbon emission. Paris Agreement was held in the year 2015, a total of 175 countries including India signed this agreement on its opening day (22nd April 2016). This agreement has done away with the requirements of common but differentiated responsibility, making every country adopt a

common framework to produce best efforts to reduce their level of emission and report regularly through a mechanism of international review. India has submitted its 10 year Intended Nationally Determined Contribution plan to be followed and achieved in between period 2021-2030 in pursuance of this agreement.

The link in the adherence of international environmental instruments and conventions ratified by countries on a global level and implementation in an effective manner is missing if present state of climate is taken into consideration.⁷³ On a national level every country does have well drafted legislations and policies in place, well concerted and comprehensive judgments, but preservation, protection and cleaning up of the environment can only be made if there is a change in the perception of the people and authorities to become green minded and incorporate their lifestyle in a way that does not harm the environment otherwise much literature and research done would only be available in books rather than in practical circumstances.^{lv} Hence duty to conserve the environment lies on part of the government, non-governmental organizations and citizens of each country, to stand united in the fight against climate change.^{lvi} After all, sustainable development is not only an action but a requirement imposed by limits of nature to bear punishment which humanity has inflicted upon it.”

ENDNOTES

ⁱ Prashant P Bhave, Nikhil Shirish Kulkarni, “Air Pollution and Control Legislation in India”, available at https://www.researchgate.net/publication/280221920_Air_Pollution_and_Control_Legislation_in_India, Last Visited on 14th April 2019.

ⁱⁱ Rohit Singh, “Analysis of Environmental Instruments in India”, available at http://www.undp.org/content/dam/india/docs/analysis_of_existing_environmental_instruments_in_india.pdf, Last Visited on 16th April 2019.

ⁱⁱⁱ Para 6 of United Nation Conference on Human Environment, 1972, available at <http://www.undocuments.net/aconf48-14r1.pdf>, Last Visited on 6th March 2019. ⁴ Ibid.

^{iv} Supra n 3, Part I, Chap. 2, -“Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits - not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organization can be both managed and improved to make way

for a new era of economic growth. The Commission believes that widespread poverty is no longer inevitable. Poverty is not only an evil in itself, but sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfil their aspirations for a better life. A world in which poverty is endemic will always be prone to ecological and other catastrophes.”

^v Our Common Future: Towards Sustainable Development, available at <http://www.un-documents.net/ocf-02.htm>, Last Visited on 9th May 2019.

^{vi} Report of the World Commission on Environment and Development: Our Common Future, available at [http://www.exteriores.gob.es/Portal/es/PoliticaExteriorCooperacion/Desarrollosostenible/Documents/Informe%20Brundtland%20\(En%20ingl%C3%A9s\).pdf](http://www.exteriores.gob.es/Portal/es/PoliticaExteriorCooperacion/Desarrollosostenible/Documents/Informe%20Brundtland%20(En%20ingl%C3%A9s).pdf), Last Visited on 1st May 2019.

^{vii} Vienna Convention for the Protection of the Ozone Layer, available at https://treaties.un.org/doc/Treaties/1988/09/19880922%2003-14%20AM/Ch_XXVII_02p.pdf, Last Visited on 1st May 2019.

^{viii} “International Treaties and Cooperation”, available at <https://www.epa.gov/ozone-layer-protection/internationaltreaties-and-cooperation>, Last Visited on 9th May 2019.

^{ix} Montreal Protocol on Substances that Deplete the Ozone Layer, available at https://treaties.un.org/doc/Treaties/1989/01/19890101%2003-25%20AM/Ch_XXVII_02_ap.pdf, Last Visited on 10th May 2019. ¹¹Ibid. ¹² Florent Martin, “Environment, Climate Change and Green Economy”, available at <https://europa.eu/capacity4dev/public-environment-climate/document/vienna-convention-protection-ozonelayervienna-revised-2012>, Last Visited on 17th May 2019.

^x “Key Achievements of the Montreal Protocol in the past 20 Years”, available at http://www.meti.go.jp/policy/chemical_management/ozone/files/pamplet/panel/07e_mp.pdf, Last Visited on 9th May 2019.

^{xi} United Nation Conference on Environment and Development, 1992, available at <http://www.un.org/geninfo/bp/enviro.html>, Last Visited on 8th May, 2019.

^{xii} Supra n 19, Principle 1 – “Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature.”

^{xiii} Supra n 19, Principle 2 - “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”. ²¹ Supra n 19, Principle 3 - “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.”

^{xiv} Supra n 19, Principle 4 - “In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.”

^{xv} Supra n 19, Principle 5 - “All States and all people shall co-operate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.”

^{xvi} Supra n 19, Principle 9 - “States should co-operate to strengthen endogenous capacity-building for sustainable development by improving scientific understanding through exchanges of scientific and technological knowledge, ^{xvii} Supra n 19, Principle 13 - “States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also co-operate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.” ²⁸

Supra n 19, Principle 14 - “States should effectively co-operate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health.”

^{xviii} Supra n 19, Principle 15 - “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.”

^{xix} Supra n 19, Principle 16 - “National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should,

in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.”

^{xx} Supra n 19, Principle 17 - “Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.”

^{xxi} Supra n 19, Principle 24 - “Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and co-operate in its further development, as necessary.”

^{xxii} Supra n 19, Principle 25 - “Peace, development and environmental protection are interdependent and indivisible”. ³⁴ Supra n 19, Principle 27 - “States and people shall co-operate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.”

^{xxiii} Agenda 21, available at <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>, Last Visited on 16th May 2019.

^{xxiv} United Nations. “Documents: Agenda 21”, available at <http://www.un.org/esa/sustdev/documents/agenda21/index.htm>, Last Visited on 16th May 2019.

^{xxv} United Nation Convention on Climate Change, 1992, available at <https://unfccc.int/resource/docs/convkp/conveng.pdf>, Last Visited on 18th May, 2019.

^{xxvi} Supra n 38 , Art. 2 - “The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved 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.”

^{xxvii} “Essential Background: The United Nations Framework Convention on Climate Change.”, available at http://unfccc.int/essential_background/convention/items/2627.php, Last Visited on 18th May 2019.

^{xxviii} Kyoto Protocol, 1997, available at <https://unfccc.int/resource/docs/convkp/kpeng.pdf>, Last Visited on 18th May 2019.

^{xxix} Secretariat of the United Nations Framework Convention on Climate Change. “Kyoto Protocol.”, available at http://unfccc.int/kyoto_protocol/items/2830.php, Last Visited on 18th May 2019.

^{xxx} Supra n 38, Art. 2(1)(a)(vi) - “Encouragement of appropriate reforms in relevant sectors aimed at promoting policies and measures which limit or reduce emissions of greenhouse gases not controlled by the Montreal Protocol”.

^{xxxi} Supra n 38, Art.4(5) - “In the event of failure by the Parties to such an agreement to achieve their total combined level of emission reductions, each Party to that agreement shall be responsible for its own level of emissions set out in the agreement.”

^{xxxii} Supra n 38, Art. 3 - “The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.” ⁴⁵ The Principle of Common But Differentiated Responsibilities: Origins and Scope, available at http://cisdl.org/public/docs/news/brief_common.pdf, Last Visited on 2nd May 2019.

^{xxxiii} Common but Differentiated Responsibilities and Respective Capabilities, available at <https://climatenexus.org/climate-change-news/common-but-differentiated-responsibilities-and-respectivecapabilities-cbdr-rc/>, Last Visited on 18th May 2019. ⁴⁷ Anup Shah, “COP20—Lima Climate Conference”, available at <http://www.globalissues.org/article/805/cop20lima-climate-conference>, Last Visited 7th May 2019.

^{xxxiv} “Lima Climate Change Conference - December 2014”, available at http://unfccc.int/meetings/lima_dec_2014/meeting/8141.php, Last Visited on 8th May 2019.

^{xxxv} Paris Agreement, available at https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf, Last Visited on 9th May, 2019.

^{xxxvi} “The Paris Agreement”, available at <https://unfccc.int/process/the-paris-agreement/what-is-the-paris-agreement>, Last Visited on 13th May 2019.

^{xxxvii} Anil Bajaj, “What is the Paris Agreement on Climate Change? Everything You Need to Know”, *The Indian Telegraph*, (Feb 1, 2019).

^{xxxviii} Principle 21 of the Stockholm Declaration- “States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.”

^{xxxix} Article 1 (b) of Convention on Long-Range Transboundary Air Pollution, 1979, ““Long-range transboundary air pollution” means air pollution whose physical origin is situated wholly or in part within the area under the national jurisdiction of one State and which has adverse effects in the area under the jurisdiction of another State at such a distance that it is not generally possible to distinguish the contribution of individual emission sources or groups of sources.”

^{xl} Protocol on the Reduction of Sulphur Emissions, available at https://www.unece.org/env/lrtap/sulf_h1.html, Last Visited on 7th May, 2019.

^{xli} “Helsinki Protocol on the Reduction of Sulphur Emissions (1985)”, available at <http://www.unece.org/info/ecehomepage.html>, Last visited on 6th May 2019.

^{xlii} The 1994 Oslo Protocol on Further Reduction of Sulphur Emissions, available at https://www.unece.org/env/lrtap/fsulf_h1.html, Last Visited on 10th May, 2019.

^{xliii} “Protocol on Further Reduction of Sulphur Emissions”, available at http://www.unece.org/env/lrtap/fsulf_h1.html, Last Visited on 10th May 2019.

^{xliv} “Protocol Concerning the Control of Emissions of Nitrogen Oxides”, available at https://www.unece.org/env/lrtap/nitr_h1.html, Last Visited on 8th May, 2019.⁵⁹

“Protocol Concerning the Control of Emissions of Nitrogen Oxides”, available at https://www.unece.org/env/lrtap/nitr_h1.html, Last Visited on 7th May 2019.

^{xlv} “Protocol Concerning the Control of Emissions of Volatile Organic Compounds”, available at https://www.unece.org/env/lrtap/vola_h1.html, Last Visited on 7th May, 2019.

^{xlvi} “Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution concerning the Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes”, available at https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-1-d&chapter=27&lang=en, Last Visited on 6th May 2019.

^{xlvii} “Protocol to 1979 Convention on Long-Range Transboundary Air Pollution”, available at <http://www.unece.org/fileadmin/DAM/env/lrtap/full%20text/1998.POPs.e.pdf>, Last Visited on 6th May 2019.

^{xlviii} “Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters”, available at <https://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf>, Last Visited on 17th May 2019.

^{xlix} Protocol to Abate Acidification, Eutrophication and Ground-level Ozone, available at http://www.unece.org/env/lrtap/multi_h1.html, Last Visited on 7th May, 2019.⁶⁵

“Protocol to Abate Acidification, Eutrophication and Ground-level Ozone”, available at http://www.unece.org/env/lrtap/multi_h1.html, Last Visited on 9th May 2019.

^l Can Li, Chris McLinden, Vitali Fioletov, Nickolay Krotkov, Simon Carn, Joanna Joiner, David Streets, Hao He, Xinrong Ren, Zhanqing Li & Russell R. Dickerson, “India Is Overtaking China as the World’s Largest Emitter of Anthropogenic Sulfur Dioxide”, available at <https://www.nature.com/articles/s41598-017-14639-8>, Last Visited on 9th May 2019.⁶⁷ “NASA Satellite Sees Increase of India’s Sulfur Dioxide Emissions”, available at <https://www.nasa.gov/content/goddard/nasa-satellite-sees-increase-of-indias-sulfur-dioxide-emissions>, Last Visited on 8th May 2019.

^{li} Usha Tandon, *Climate Change: Law, Policy and Governance*, 301 (Eastern Book Company, 2015)⁶⁹ Manju Menon & Kanchi Kohli, “The Good & Bad of Environmental Law Reform in India”, available at <https://namati.org/news/the-good-bad-of-environmental-law-reform-in-india/>, Last Visited on 16th May 2019.

^{lii} M Pagell, S Dobson & I Gavronski, ‘Sustainable Operations’, in *Scholarpedia*, vol. 5, 2010, 10421.

^{liii} S Islam & A Jolley, “Sustainable Development in Asia: the Current State and Policy Options, in *NaturalResources*” *Forum*, vol. 20, 1996, 263-279.

^{liv} Deva Prasad M., “Taking Environmental Law Seriously: An Indian Perspective”, available at <http://www.livelaw.in/taking-environmental-law-seriously-indian-perspective>, Last Visited on 15th May 2019. ⁷³
Shibani Ghosh, “A Better Law for The Jungle?”, available at <https://www.thehindubusinessline.com/opinion/abetter-law-for-the-jungle/article20963201.ece1>, Last Visited on 15th May 2019.

^{lv} P Diwan & P Diwan, Environment Administration, Law and Judicial Attitude, in , New Delhi, Deep & Deep Publications, 1992.

^{lvi} S Dasgupta & T Mitra, “Intergenerational Equity and Efficient Allocation of Exhaustible Resources” in International Economic Review, vol. 24, 1983, 133.

