JUDICIAL PERSPECTIVE ON CLIMATE CHANGE: A COMPARATIVE STUDY

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Abstract

"Climate Change is by its very nature a threat, but it is a deadly threat only because it fails to trigger the brain's alarm. It leaves us sleeping in a burning bed."- Dan Gilbert

The word 'Climate' is derived from the Greek word *"Klima"* literally it means- *"Inclination"*. Climate is generally defined as the weather conditions averaged over a long time. "Climate change" is on everyone's lips these days. The earth is rapidly warming owing to the unrelenting emission and accumulation of Carbon dioxide and other greenhouse gases in the atmosphere. This is causing accelerated melting of ice-sheets and glaciers, a rise in sea levels and changes in hydrological cycles, wind circulations and ocean currents.

In this paper we are going to discuss about the history of climate change law, what major factors are responsible for the climate change, the legal and ethical issues for implementing the environmental law, what are the regulations relating climate change law in India & World and how much they are effective in the current scenario and its judicial perspective followed by conclusions and suggestions.

Keywords: Climate Change, Greenhouse Gases, Judiciary, Laws & Regulations

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INTRODUCTION

"We can't cure the planet, we haven't the power, but we just might be able to make it go into reverse phase and cure itself"

–Lovelock and Rapley[1]

The fifth assessment synthesis report of IPCC (Intergovernmental Panel on Climate Change), 2014, shown that most of the developed countries like US, UK, Canada are facing the danger of heating of atmosphere which results in their climate change. But, what about the developing situation of countries that, in the race of becoming developed are not taking proper measures to train and educate their people about the consequence of overheating of climate.[2]

Above the path of this century, the connection between living creature and the earth on which they survive has altered basically. Climate change is broadly known to be the most vital ecological crisis facing mankind. Climate change is on everyone's lips these days. Taking action to substantially reduce our carbon emission is important for our future prosperity.[3] The earth is rapidly warming owing to the unrelenting emission and accumulation of Carbon dioxide and other greenhouse gases in the atmosphere. This is causing accelerated melting of ice-sheets and glaciers, a rise in sea levels and changes in hydrological cycles, wind circulations and ocean currents.

At present, there is massive exploitation and utilization of various resources in unsustainable paths. This might compromise the ability of future generations to meet their own developmental needs and values. Here comes the important role for judiciary to play in order to prevent environmental degradation which leads to climate change. Judiciary are being proactive in the promotion of intergenerational justice and fight against climate change in order to bequest clean and healthy environment to future generations.

MEANING AND DEFINITION OF CLIMATE CHANGE

[1] (Letter from James E Lovelock and Chris G Rapley, *"Ocean Pipes Could Help the Earth to Cure Itself"*, Nature, 449 (September 27 2007), p 403

[2] Adam Jolly, *"Managing Climate Change Risk: A Practical Guide For Business",* Thorogood publishing ltd. 2008, P. 23-32 titled *"Projections Of Climate Change".*

[3] Ibid.

Climate is derived from the Greek word *"Klima"* literally it means- *"Inclination".* Climate is generally defined as the weather conditions averaged over a long time. The standard averaging period is 30 years.[4]

According to Collins English Dictionary, *"Climate means typical weather conditions of an area".*

According to Class Zone, *"Climate is defined as an area's long-term weather patterns. The simplest way to describe climate is to look at average temperature and precipitation over time. Other useful elements for describing climate include the type and the timing of precipitation, amount of sunshine, average wind speeds and directions, number of days above freezing, weather extremes, and local geography".*[5]

CLIMATE CHANGE

Climate Change is an important and permanent alteration in the statistical allocation of weather conditions pattern over periods ranging from decades to millions of years. It might be a change in average climate conditions, or in the allocation of weather around the average conditions (i.e., more or fewer extreme weather events). Several definitions given by various writers, national and international Institutions in the following manner:

- **Oxford Dictionary -** *"Changes in the earth's weather, including changes in temperature, wind patterns and rainfall, especially the increase in the temperature of the earth's atmosphere that is caused by the increase of particular gases, especially carbon dioxide".*
- **Velma I. Grover -** *"Technically, climate change can be defined as a statistically significant variation in either the mean state of the climate or in its variability".*[6]
- **H.D. Kumar -** *"It is the statistically significant variations of the mean state of the climate or of its variability typically existing for decades or longer, which are referred to as climate change".*[7]

[4] "Climate averages"-Met Office, Accessed on 2008-05-17

[5] http://www.classzone.com/books/earth_science/terc/content/investigations/es2101/es2101page01.cfm; Accessed on 19.08.2013

[6] Velma I. Grover, *"Global Warming and Climate Change: Ten years after Kyoto and Still Counting"*, (2008), volume 1, pg.no. 5

[7] H.D. Kumar, *"Global Climate Change: Insights, Impacts and Concerns"*, (2006), pg.no. 1

- **IPCC -** "*A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer".*[8]

Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

- **Article 1, UNFCCC:** "*A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods".*[9]
- **Environmental Protection Agency (EPA):** *"Climate change refers to any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer.*[10]*"*
- **According to the World Meteorological Organization (WMO):** *"Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcing, or to persistent anthropogenic changes in the composition of the atmosphere or in land use".*[11]

FACTORS RESPONSIBLE FOR CLIMATE CHANGE

On the broadest scale, the rate at which energy is received from the sun and the rate at which it is lost to space determine the equilibrium temperature and climate of Earth. This energy is distributed around the globe by winds, ocean currents, and other mechanisms to affect the climates of different regions.

Factors that can shape climate are called climate forcing or "forcing mechanisms". These include processes such as variations in solar radiation, variations in the Earth's orbit, mountain-building and continental drift and changes in greenhouse gas concentrations. There are a variety of climate change feedbacks that can either amplify or diminish the initial

[8] (http://www.thegwpf.org/ipcc-introduces-new-climate-change-definition/)
[9] (http://unfccc.int/essential_background/convention/background/items/2536.php)
[10] "(http://www.epa.gov/climatechange/basics/)
[11] http://www.wmo.int/pages/index_en.html.

forcing. Some parts of the climate system, such as the oceans and ice caps, respond slowly in reaction to climate forcing, while others respond more quickly[12].

Climate change is caused by factors that include:

- oceanic processes (such as oceanic circulation),
- biotic processes,
- variations in solar radiation received by Earth,
- plate tectonics,
- volcanic eruptions, and
- human-induced alterations of the natural world;

These latter effects are currently causing global warming, and "climate change" is often used to describe human-specific impacts[13].

IMPACT OF CLIMATE CHANGE

Some expected impacts of climate change include disruption of ecosystems, species, extinctions, inundation of coastal areas from rise in sea level, increasing precipitation and floods, and frequent storms[14].

Impacts of climate change can be of several forms such as health impact, agriculture impact, food & natural regions impact, forest impact which are enlisted as follows:

1. **Health Impact[15]**

- Changes in the climate may affect vector-borne diseases in several ways, namely, their survival and reproduction rates, the intensity and temporal pattern of vector activity and the rates of development, survival and reproduction of pathogens within vectors.

2. **Agriculture Impact[16]**

[12] Also available at http://prezi.com/8tgtp_dclapb/climatic-changes/ (accessed on 09/09/2013)
[13] Ian Plimer, *"Heaven & Earth Global Warming The Missing",* Science Publisher ,Connor Court Publishing Ltd. 2009.
[14] HD Kumar , *"Global Climate Change: Insights, Impacts And Concerns"*, P. 10 titled *Management And Mitigation Of Climate Change*, Vitasta Publishing Pvt.Ltd ,2007.
[15] Also available at: http://envis.maharashtra.gov.in/envis_data/newsletter/climatechange/Links/Climate%20change%20impacts/cc_impacts.html (accessed on 09/09/2013)
[16] Ibid.

- Simulations using dynamic crop models indicate a decrease in yield of crops as temperature increases in different parts of world.
- In context of India, food security of India may be at risk in the future due to the threat of climate change leading to an increase in the frequency and intensity of droughts and floods, thereby affecting production of small and marginal farms.
- Local weather changes can cause disruption of flowering / fruiting cycles & change in pest profile.
- General rise in temperature can cause Sea level rise & intrusion of salt water into coastal farmlands and Stormy weather can cause Strong winds leading to crop damage & soil erosion.

3. Forest & natural Regions Impact[17]

- Even in a relatively short span of about 50 years, most of the forest biomes in India seem to be highly vulnerable to the projected change in climate.
- Climate Change, leading to warning and water stress could further exacerbate land degradation, leading to desertification.
- These impacts on forests will have adverse socio-economic implications for forest dependent communities and the national economy. The impacts of climate change on forest ecosystems are likely to be long-term and irreversible.
- In some regions, the remaining natural flood plains are disappearing at an accelerating rate, primarily as a result of changes in land use and hydrological cycle.
- In the Indian scenario, the two important measures of climate change which have direct and significant impact on the biodiversity are the variation in precipitation and temperature**.**

ETHICAL ISSUES

'Ethical issues', as a phrase, is even worse. Ethical issues are often precisely the ones we prefer to avoid, because they force us to confront the sometimes muddy difference between doing right and doing wrong -- or because we know that in confronting ethical issues generally, we must sometimes confront the ethical deficiencies in our own behavior. But global warming is undeniably an ethical issue, and we must face it as such. That means asking hard questions about responsibility, accountability, and the differences between

[17] Ibid.

actions -- whether political, economic, or wholly personal -- that are right versus those that are wrong.

The world's present institutions have failed to address adequately the threat of climate change. No politician has been willing to sacrifice the short-term economic welfare of his or her country, even while agreeing that sustainability is essential in the long term. Furthermore, the deep social, economic and political divisions within societies and between countries prevent united action in the common interest.

Any action on climate change confronts serious ethical issues of fairness and responsibility across individuals, nations, generations, and the rest of nature.

The main ethical issue might be how to define and differentiate responsibilities between present and future generations, developed and developing countries, and human and nonhuman beings[18].

Ethical issues, by contrast, have to do with the actions that everyone, or at least most reasonable people, agrees to be moral. These agreements usually take the form of principles, such as the famous and widely shared principle of the Golden Rule: Do not do something to someone else that you would not like to have done to you. (Here we might ask: Would we like it if our grandparents had set slow fire to the world, a fire that crested into visibility during our lifetime, and left it to us to deal with the problem? This is what climate change will be like to our descendants.)

ROLE OF JUDICIARY AND LEGAL ISSUES

The judiciary has a role to play in the interpretation, explication and enforcement of laws and regulations. The achievement of ecologically sustainable development depends on the commitment and involvement of all arms of government – the legislature, executive and judiciary – as well as other relevant stakeholders.

As Kaniaru, Kurukulasuriya and Okidi state: *"The judiciary plays a critical role in the enhancement, interpretation of environmental law and the vindication of the public interest in*

[18] *"Ethics and Global Climate Change"* : Stephen M. Gardiner (Department of Philosophy and Program on Values in Society, University of Washington) & Lauren Hartzell-Nichols (Program on Values in Society and Program on Environment, University of Washington) © 2012 Nature Education Citation: Gardiner, S. M. & Hartzell-Nichols, L. (2012) Ethics and Global Climate Change. Nature Education Knowledge 3(10):5

a healthy and secure environment. Judiciaries have, and will most certainly continue to play a pivotal role both in the development and implementation of legislative and institution regimes for sustainable development. A judiciary, well informed on the contemporary developments in the field of international and national imperatives of environmentally friendly development will be a major force in strengthening national efforts to realise the goals of environmentally-friendly development and, in particular, in vindicating the rights of individuals substantively and in accessing the judicial process"[19].

Just because of Climate Change there are several legal issues which arises in relation to real estate law, Immigration Law, violation of Environmental regulations, Refugee Law, Public Trust Laws and several other issues which can be better understood looking at role of judiciary in several countries like US, UK, India, as follows:

1. **US (UNITED STATES)**

In *American Electric Power Co., Inc.* v. *Connecticut*[20]**,** the Supreme Court read the CAA to bar federal judges from imposing their own limits on GHG emissions from fossil-fuel-fired power plants, separate from those imposed by EPA under that act. More formally, the Court held that the CAA displaces any federal common law of nuisance that might ground a claim seeking judicial abatement of such emissions. However, American Electric Power left open two key questions. First, may those suffering climate-change impacts still assert federal common law of nuisance actions seeking not injunctive relief, as plaintiffs sought in American Electric Power, but rather monetary damages? Second, do state law claims, either common law or statutory, withstand American Electric Power, which addressed only federal common law claims?

These questions were both answered in the negative in *Comer* v. *Murphy Oil Co.*[21]

There, Mississippi landowners pressed state and federal tort claims (nuisance, trespass, and negligence) against numerous oil, coal, and chemical companies that allegedly emitted substantial GHGs. The landowners' claims were based on property-related harms suffered as the result of Hurricane Katrina-they argued that the defendants, through their GHG emissions

[19] D Kaniaru, L Kurukulasuriya and C Okidi, *"UNEP Judicial Symposium on the Role of the Judiciary in Promoting Sustainable Development"*, a paper presented to the Fifth International Conference on Environmental Compliance and Enforcement, Monterey, California, USA, November 1998, p. 22 of conference proceedings.
[20] 131 S. Ct. 2527 (2011)
[21] 839 F. Supp. 2d 849 (S.D. Miss. 2012)

and resulting climate change, had contributed to warmer ocean temperatures that had intensified the hurricane, and to rising sea level that aggravated the hurricane's impacts further. They sought damages. Despite the differences from American Electric Power-state rather than federal claims, monetary rather than injunctive relief-the district court found that decision controlling. Here as in American Electric Power, the court said, the lawsuit called upon the court to determine what level of CO_2 emissions was unreasonable, a determination the Supreme Court explained had been entrusted by Congress to the EPA. Therefore, the court determined that the plaintiffs' "entire lawsuit" is displaced by the CAA, though the ruling is dictum.[22]

In *Massachusetts* v. *EPA, the U.S.*[23], Supreme Court upheld the standing of Massachusetts and other states to challenge the failure of the U.S. Environmental Protection Agency (EPA) to regulate greenhouse gas (GHG) emissions from motor vehicles and went on to hold that the Clean Air Act regulates GHGs as air pollutants. As a result of this decision, EPA is moving forward on several fronts to regulate GHG emissions from motor vehicles and stationary sources.

2. UK (UNITED KINGDOM)

The **UK's 2008 Climate Change Act** introduced a world first: a long-term framework for reducing greenhouse gas emissions that is legally binding on Government, and is a centerpiece of our strategy to develop and deliver a low carbon future.

The Act sets a target to reduce UK greenhouse gas emissions by at least 80% by 2050, and puts us on the path to that target by creating a system of binding carbon budgets to cover five-year periods, set up to fifteen years ahead. The first three of these carbon budgets, covering the periods 2008-2012, 2013-17 and 2018-2022, were announced in April 2009 in line with

[22] When a court opinion speaks to an issue the resolution of which is not required to decide the case, it is referred to as "dictum." Traditionally, dictum is entitled to less precedential force than a pronouncement of the court essential to disposing of the case-often termed a "holding." In Comer, the American Electric Power discussion described in text above was preceded by not one, but three, different determinations of the court (res judicata, absence of standing, and non-justiciable political question) each one of which was fully adequate to support dismissal of the action. That is, the court had no need to resolve the displacement issue and its discussion is, therefore, dictum.

[23] See, e.g., U.S. EPA, Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs, Final Rule, 75 Fed. Reg. 17004 (Apr . 2,2010); Prevention of Significant Deterioration and Tailoring Rule, 75 Fed. Reg. 31514 (June 3, 2010); Endangerment and Cause and Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, Final Rule, 74 Fed . Reg . 66496 Dec . 15, 2009); Mandatory Reporting of Greenhouse Gases, 74 Fed . Reg .56260 (Oct . 30, 2009)

advice from the independent Committee on Climate Change, which the Act created to advise Government. The Committee recommended that the UK should achieve a reduction in emissions of all greenhouse gases of 34% relative to 1990 in the third period (2018-2022), and of 42% once a global deal to reduce emissions is achieved. The Government will tighten the carbon budgets in the light of a global deal.[24]

The Energy Bill, 2012. Currently awaiting Report Stage in Parliament, this bill includes provisions for a 'Green Deal' on energy efficiency, greater security of energy supplies and more low-carbon electricity. More detailed secondary legislation for the 'Green Deal' will be prepared during 2011 with a formal consultation process recently completed. Secondary legislation will be laid before parliament in early 2012 with the first 'Green Deal' expected to be available in late 2012. This policy will be accompanied by funding for training for up to 1,000 'Green Deal' apprenticeships[25].

3. INDIA

The Indian courts have been keen to employ the public trust doctrine for the purpose of environmental conservation. In *M.C. Mehta* v. *Kamal Nath*,[26] a newspaper article alerted the Supreme Court of India that a private company had built a hotel on the bank of River Beas. The land had been leased to the company whilst Kamal Nath, who had links with the company, was the Minister for Environment and Forests. The article claimed that during the construction process, bulldozers were used to create a new channel for the purpose of diverting the river-flow away from the hotel to save it from flooding. The Supreme Court of India was most concerned at the alleged environmental degradation.

The Supreme Court took the opportunity to explore the doctrine of public trust as it applied in Indian law. After discussing the importance of sustainable development and respect for the 'laws of nature',[27] the Court discussed the development of the doctrine and observed that:

Our legal system – based on English common law – includes the public trust doctrine as part of its jurisprudence. The State is the trustee of all natural resources which are by nature

[24] http://www.legislation.gov.uk/ukpga/2008/27/contents

[25] (For further details on the Energy Bill: http://www.decc.gov.uk/en/content/cms/legislation/energy_bill/energy_bill.aspx. For progress of the legislation: http://services.parliament.uk/bills/2010-11/energyhl.html)

[26] (1997) 1 SCC 388.

[27] (1997) 1 SCC 388 at [23].

meant for public use and enjoyment. Public at large is the beneficiary of the sea-shore, running waters, airs, forests and ecologically fragile lands. The State as a trustee is under a legal duty to protect the natural resources. These resources meant for public use cannot be converted into private ownership.[28]

In **Indian Council for Enviro-Legal Action** v. **Union of India**,[29] a number of private companies operated chemical factories without the required licenses and had not installed equipment for the treatment of highly toxic effluent which they discharged. The discharge polluted water aquifers and the soil in the area. The Supreme Court of India dealt with the liability of the companies to defray the costs of the remedial measures. One of the ways that the liability of the companies could be viewed was from the 'polluter pays' principle.

EFFORTS IN INDIA

1. The M.S. Swaminathan Research Foundation (MSSRF) in cooperation with Development Alternatives, the Watershed Organizations Trust (WOTR), the United Nations Development Programme (UNDP), Swiss Agency for Development and Cooperation (SDC) India / Climate Change and Development (CCD) / Embassy of Switzerland Delhi, International Union for Conservation of Nature (IUCN) organised a series of meetings across India bringing together lessons and voices from the grassroots and experts and practitioners to deliberate on a National Policy Dialogue on Climate Change Actions.

The process of designing, preparing and **National Policy Dialogue on Climate Change Actions (NPDCCA) 2010**, was chaired by Prof. M.S. Swaminathan, Member of the Indian Parliament and Chairman of MSSRF in cooperation with the NPDCCA Steering Group.

The four important consultations and dialogues held in Bundelkhand, Pune, Chennai and New Delhi in 2010 have helped leading stakeholders, ministries of Government of India, national research organizations, NGOs and experts to affirm their commitments to action and to contribute to the national policies and missions relating to climate change actions[30].

[28] (1997) 1 SCC 388 at [34].
[29] IR 1996 SC 1446.
[30] http://www.climatechangeaction.in/NPDCCA (accessed on 05/09/2013)

2. At the Major Economies Forum on Energy and Climate in Italy in **July 2013**, India joined 16 other countries in declaring that the increase in global average temperature above pre-industrial levels should not exceed 2 degrees Celsius. This goal remains somewhat controversial, however, as there is still no clear agreement on how countries will share the burden for reducing global emissions[31].
3. At the subsequent Major Economies Forum in Washington, D.C., this September 2013, India proposed that it could submit more detailed and regular information to the international community on its domestic climate change efforts as a step toward greater transparency[32].
4. **National Electricity Plan, 2012** deals with initiatives and measures for GHG mitigation, and aims to keep CO2 intensity declining while massively expanding rural access and increasing power generation to meet the demands of a rapidly growing economy.[33]
5. Other Major statute working in India to control different kinds of Pollution are Environmental (Protection) Act, 1986, The Water (Prevention and Control of Pollution) Act, 1974, The Air (Prevention and Control of Pollution) Act, 1981, Hazardous wastes (Management and Handling) Amendment Rules, 2000, which aims to provide for the protection and improvement of environment and the prevention of hazards to human beings, other living creatures, plants and property.[34]

SUGGESTIONS

1. To deal with the risks and understand the opportunities, Government shall take following measures:

- Raise awareness of the potential impact of climate change so that all of us can begin to think about how we need to respond;
- Prioritize decisions that have long-term effects, for example, investment in new transport, water, energy and communications infrastructure that will have a long life span;

[31] Published by *"Worldwatch Institute: Vision for a Sustainable world"* available at: http://www.worldwatch.org/node/6278 accessed on 05/09/2013
[32] Ibid.
[33] Available at: http://www.rtcc.org/2013/02/19/in-focus-indias-climate-change-laws/ (accessed on 05/09/2013)
[34] Bare Act: Universal Publications, New Delhi, 2012 edition, see Preamble of the act.

- Take action early where the benefits clearly outweigh the costs. Some changes which can be made within the space of one or two years – such as changing crops or providing shade in playgrounds need not be done now. However, designing new buildings or refurbishing old ones to make them climate resilient is likely to be more cost-effective than making changes later.
- Government shall establish a committee on climate change like UK. Committee can advise the Ministry of Finance on the level of carbon budget for each five year period.[35]

2. There is a need of climate change management curriculum in management institutions, to train the students and make them aware of the growing environmental concerns related to industrial pollution and other environmental issues. It will somewhere help students of management schools in India holding top positions in Industries to take steps and adapt several measures to tackle with the menace of climate change.
3. The media (electronic and print) and the environmental movement should be focusing more on climate as a global rather than national issue. Not only would this approach be more logical, he said, but it would also be more effective.

CONCLUSION

Thus, this article approaches the concept of taking climate change into account from the judicial perspective. The intent has been to frame this issue more clearly and to provide some judicial options in thinking about how to approach climate-related testimony in court cases and ways to incorporate more adaptive approaches into environmental rights decisions. Finally, the efforts of Indian government should be appreciated in gearing up the activities handling serious issue of climate change. Still a long way to go and much pain are needed to take in order to diminish the pain of our planet.

[35] Allan Jolly, *"Managing Climate Change Risk: A Practical Guide For Business",* see chapter 5 titled Regulatory Control and Legislation, thorogood publishing limited, 2008, (See page no. 45-50.)