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PROBLEMS OF CLIMATE CHANGE AND APPLICABILITY OF ENVIRONMENTAL LAWS IN INDIA

ABSTRACT

This short article investigates the pervasive and devastating impacts of climate change on India's ecology, ecosystems, and socio-economic fabric, with a particular focus on extreme weather events. The Center for Science and Environment's alarming findings underscore the urgent need for mitigation and adaptation measures, as the country faces a barrage of calamities affecting millions of lives and vast expanses of cropland. The escalating climate-related challenges in the North East, including drying mountain springs, compound the water crisis in the region. Despite the Indian government's commitment to achieving net-zero greenhouse gas emissions by 2070, the thesis argues for a heightened emphasis on adaptation strategies amid worsening weather conditions. The study incorporates a comprehensive review of existing literature on the economic impacts of climate change on Indian agriculture, exploring vulnerability and adaptation methodologies. Assessing governmental initiatives, such as the Global Environment Facility, International Solar Alliance, and National Offshore Wind Energy Policy, reveals India's commitment to environmental conservation. Additionally, recent environmental laws, including the Coastal Regulation Zone Notification, National Green Tribunal Act, and Wildlife (Protection) Amendment Bill, are scrutinized for their effectiveness in mitigating climate change. The thesis concludes by highlighting the achievements in emission reduction and renewable energy but emphasizes the imperative to

strengthen environmental laws, enforcement mechanisms, and public awareness to effectively combat climate change in India.

I. INTRODUCTION

Climate change is a worldwide problem that is wreaking havoc on the ecology and ecosystems of several nations, including India. Climate change has far-reaching consequences that are affecting the health, welfare, infrastructure, and economy of these countries. Climate change is characterized by torrential rains, flash floods, landslides, heat waves and other drastic weather conditions¹. Numerous nations, including India, have established regulations to mitigate and acclimate to the impact of climate change.²

2. BACKGROUND OF THE ENVIRONMENTAL PROBLEM

2.1 The extreme climate conditions in India:

“The Center for Science and Environment,” in New Delhi is a public-interest research and advocacy association, it began tracking the dangerous weather conditions in India in 2022. It discovered that the country witnessed adverse weather occurrences on three hundred and fourteen of the three hundred and sixty-five days, implying that there was on average one extreme weather occasion reported in some portion of the country every day. According to the research, these catastrophes will kill over three thousand people in 2022, impact over “2 million hectares (4.8 million acres)” of cropland, kill over seventy thousand livestock animals, and demolish approximately 425,000 dwellings. “The UN Intergovernmental Panel on Climate Change” published a forecast for 2022 that

¹ ‘Climate Change in India: A Growing Environmental Crisis – DW – 07/11/2023’
<<https://www.dw.com/en/climate-change-in-india-a-growing-environmental-crisis/a-66190451>> accessed 26 December 2023.

² ‘(25) The Impact of Climate Change on Indian Laws and Regulations | LinkedIn’
<<https://www.linkedin.com/pulse/impact-climate-change-indian-laws-regulations-manan-mathur/>> accessed 26 December 2023.

paints a dismal image for India. It cautioned that the nation might experience a slew of climate-related calamities in the next twenty years. It stated that greenhouse gas emissions should be dramatically decreased by the year 2030 or it will be tough for the country to avert an impending climate disaster.

All parts of India are drastically affected because of climate change, “Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim comprise the eight states of North East India.” These states are vulnerable to environmental issues such as flooding, deforestation, earthquake landslides, and river bank erosion³. According to a 2021 assessment, the climate in northeast India is changing. the analysis states that rainfall patterns in the region have significantly altered over the last century, resulting in a general drying up. The drying up of mountain springs which is a source of water in the region, is the heart of the Northeast's climate-change-induced water issues. According to Arunachal Pradesh's environment minister, nearly two hundred mountain springs, which are direct primary supplies of water for the state's hilly villages, have dried out because of less precipitation. The NITI Aayog report also claimed that "the problem of dying springs is becoming increasingly felt across the Indian Himalayan Region."⁴

2.2 What needs to be done?

In India, Narendra Modi's government pledged to decrease the country's greenhouse gas emissions to net zero by the year 2070. However, in the face of increased adverse weather conditions, scientists argue the authorities must prioritize “adaptation measures.” The director of the “Centre for Science and Environment, Sunita Narain, told DW, “More needs to be done for climate

³ ‘Climate Crisis in North East India: What Is behind Water Scarcity in the Region’

<<https://www.downtoearth.org.in/news/climate-change/climate-crisis-in-north-east-india-what-is-behind-water-scarcity-in-the-region-78910>> accessed 26 December 2023.

⁴ Ibid at 3.

adaptation to prevent economic losses and food insecurity," "We need to relearn land- and water-management strategies," Narain remarked. "India has a lot to learn, from not building homes in flood-prone areas to channeling river water instead of taming rivers within embankments that invariably break or simply do not work."⁵

Also, some global challenges include transboundary problems, and the country should not be immune to those problems. Globalization and the environment in India are influenced by global climate conditions and other nations' policies, global negative externalities cannot be ignored. These will be relevant to the policies pursued by the Indian government.

II. LITERATURE ON CLIMATIC CHANGE IN INDIA

Kumar (2007) evaluated the prevailing research on the effects of climate change on Indian cultivation in a commentary, spanning three elements of evaluation: impact, "vulnerability, and adaptation." The writer discovers that the economic effects of climate change on the agricultural sector have been thoroughly researched globally and are a strongly discussed research concern. Kumar deliberates the papers founded on the 2 techniques to evaluate economic influence, viz. the "agronomic-economic and the Ricardian approaches." By utilizing these methods, it is discovered that the Indian economy's GDP is predicted to fall owing to climate change at the end of the twenty-first century.⁶

Hanif et al. (2010) attempted to measure the effects of deviations in regular climate factors on the variable and long-term growth of agriculture at the regional and national levels. The analysis verifies the concept that climate change has a significant effect on production and agricultural land prices.

⁵ Ibid at 1.

⁶ Rajesh Mall and others, 'Impact of Climate Change on Indian Agriculture: A Review' (2007) 82 Climatic Change 225.

III. THE INITIATIVES OF THE INDIAN GOVERNMENT TOWARDS CLIMATE PROTECTION

Different plans have been implemented around the world to safeguard the environment. “The Global Environment Facility (GEF),” founded as an experimental program for the protection of the environment, is one such program in India. GEF-6 is the current project cycle, which runs from 2014 to 2018. The GEF was established in 1992 in Rio de Janeiro as a fiscal vehicle to assist developing nations in meeting their funding requirements to fulfil their climate change targets⁷. In 2015, the GEF invested a sum of “\$4.2 billion in 1010 projects in 167 countries,” India received approximately more than \$516 million in GEF donations to date.⁸

In 2015, Shri Narendra Modi unveiled the “ISA at COP 21 in Paris.” The International Solar Alliance (ISA) would offer a unique forum for joint collaboration among one hundred and twenty-one solar resource-rich nations located entirely or partly between the “Tropics of Cancer and Capricorn.” One more major renewable energy policy resourcefulness is the “National Offshore Wind Energy Policy 2015,” which proposes to promote offshore wind energy progress by facilitating the establishment of offshore wind power developments and R&D actions in waters within or next to the nation up to a seaward distance of “200 nautical miles exclusive economic zone (EEZ)” of the nation from the baseline.

IV. RECENT ENVIRONMENTAL LAWS IMPLEMENTED IN INDIA

4.1 “Coastal Regulation Zone Notification, 2018”

⁷ UN Environment, ‘Global Environment Facility’ (*UNEP - UN Environment Programme*, 10 November 2017) <<http://www.unep.org/about-un-environment/funding-and-partnerships/global-environment-facility>> accessed 26 December 2023.

⁸ ‘GEF and India: Enabling Transformation’ (*Global Environment Facility*, 19 October 2016) <<https://www.thegef.org/newsroom/news/gef-and-india-enabling-transformation>> accessed 25 December 2023.

This notification promotes sustainable development while simultaneously addressing natural disasters such as sea-level rise induced by global warming. It also secures and protects animals while preserving local populations' financial sources, particularly those of fishermen.

4.2 “The National Green Tribunal Act, 2010”

This was passed to assist pollution and other environmental damage victims with judicial and administrative remedies. The National Green Tribunal (NGT) was founded in 2010 as a specialized judicial body committed to arbitrating environmental matters in India. Considering that the majority of environmental cases include multidisciplinary problems that are best handled in dedicated settings, the Tribunal was formed on the guidance of the Supreme Court, the Law Commission, and India's international law duties to create effective national environmental regulations. The Tribunal's mission is to identify effective and timely solutions in issues involving environmental protection, forest and other natural resource protection, and the enforcement of all ecological legal rights. The Tribunal's directive is compulsory and can offer respite to the victims through reimbursement.

The above legislation supports “Article 21 of the Constitution” which states that citizens have the right to a healthy atmosphere. “The National Green Tribunal” must rule on cases referred to it in a year after its establishment. The NGT is largely accountable for key environmental concerns. However, because of this enactment, which inspires lawyers to study environmental law, the Tribunal is regarded as a vital component of attaining environmental justice.

4.3 “The Wildlife (Protection) Amendment Bill, 2021”

“The Wild Life (Protection) Amendment Bill, 2021” was presented in Lok Sabha by the “Ministry of Environment, Forest and Climate Change.” The Bill intends to upsurge the number of species safeguarded under this law and create the

“Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).”⁹

4.4 The main areas the bill emphasizes on the following:

This above amendment proposed the formation of “Standing Committees of State Wildlife Boards.” These Committees would function similarly to the “National Board for Wildlife (NBWL).” It would make wildlife managing and project authorizing choices without referring the projects to NBWL. The Bill reduces the number of “Schedules for Wildlife” under the Act from six to four.

“The Wildlife Management Plans,” which were produced for national parks around the nation, are included in the Wildlife Act, according to the Bill. This guarantees that these protected sites are better safeguarded. The proposals were already approved by executive order.

CONCLUSION

Thus, these are the laws that have been implemented in India to solve the problem of climate change and these laws were very helpful to mitigate climate change to a great extent. The country has met its intended aim of reducing the “emissions intensity of its GDP by 21% above 2005 levels” by the year 2020, according to India’s environment minister. The nation is also getting close to meeting its 2015 aim of gaining a 40% share of non-fossil fuel-based energy-producing volume and the Indian administration anticipates reaching the goal by 2023 much before the planned time.¹⁰

In conclusion, climate change is a major challenge for India. The country has several environmental laws that can be used to address this challenge. To effectively address climate change, India needs to strengthen its environmental

⁹ ‘The Wild Life (Protection) Amendment Bill, 2021’ (*PRS Legislative Research*)

<<https://prsindia.org/billtrack/the-wild-life-protection-amendment-bill-2021>> accessed 26 December 2023.

¹⁰ Ibid at 1.

laws and enforcement mechanisms. The government also needs to raise awareness of environmental rights and encourage public participation in environmental protection.