COMMENT

ASSESSING AND ADVANCING THE CLIMATE CAPABILITY OF INDIA'S JUDICIARY

by Prakriti Shah and John M. Doherty

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s in many other countries, climate change is driving new and complex litigation throughout India. These cases deal with a wide scope of issues, including greenhouse gas (GHG) emissions, renewable energy development, and air pollution, among other topics. Five features related to India's climate and energy policies, its judicial structure, and a recent Supreme Court decision make it likely that the courts will continue to play a significant role in shaping the country's response to climate change.

First, despite a high degree of public support for GHG emissions reduction, government action on climate change mitigation has been limited and insufficient to meet international goals to constrain global temperature rise to acceptable levels under the Paris Agreement. Second, India's National Green Tribunal (NGT), which has primary jurisdiction over all environmental disputes, provides litigants with a straightforward path to challenge governmental policies on climate and energy. Third, cases brought before the Supreme Court that are done in the public interest—including litigation around environmental degradation—have relaxed standing requirements. Fourth, expansive judicial power allows Indian judges to issue decisions on government actions that are not formally challenged by a plaintiff. Fifth, in a March 2024 Supreme Court decision, Chief Justice Dhananjaya Y. Chandrachud declared that the "right to be free from the adverse effects of climate change" is included under the constitutional rights to equality and to life, potentially greenlighting future climate litigation brought on constitutional grounds.

This combination of factors related to the impacts of climate change, national policy, and judicial authority make it likely that Indian courts will see an increase in climate litigation. In previous climate cases, judges were asked to navigate and opine upon complex scientific topics. To advance judicial knowledge of climate science and ensure that judges are prepared to meet this growth in litigation, this Comment argues that the country's official judicial education channels—the National Judicial Academy (NJA) and the various state-level equivalents—should consider adopting climate literacy trainings. The Comment

provides a brief overview of climate impacts and policy in India, an explanation of the judiciary's authority and structure, including its educational bodies, and a description of select cases in which judges have already weighed in on climate issues. Proactive preparation for climate litigation will increase judges' abilities to make informed, expedient, and just decisions in the storm of cases to come.

I. Climate Change in India: Impacts and Policy Response

A. Background

In India, climate change manifests in many and diverse ways. Between 1901 and 2018, the near-surface air temperature rose by approximately 0.7 degree Celsius (°C) on average throughout the country. In addition, warming of the Indian Ocean surface has outpaced the global average increase in sea surface temperature (SST). From 1951 to 2015, SST in the Indian Ocean increased by about 1°C, whereas the global average SST increased by 0.7°C. Like that of the rest of the world, this increase in temperature is driven by human activity—most notably by human emissions of greenhouse gases (GHGs) like carbon dioxide (CO₂).²

India is facing not only an increase in temperature, but also stronger and more frequent extreme weather events, changes in rainfall patterns, and sea-level rise driven by climate change.³ The impacts of climate change on humans and ecosystems have prompted governments around the

Raghavan Krishnan et al., Introduction to Climate Change Over the Indian Region, in Assessment of Climate Change Over the Indian Region 1, 14 (Raghavan Krishnan ed., Springer 2020).

Id. at 2; Intergovernmental Panel on Climate Change (IPCC), Summary for Policymakers, in Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change 3 (Valérie Masson-Delmotte et al. eds., Cambridge Univ. Press 2021), https://www.ipcc. ch/report/ar6/wg1/chapter/summary-for-policymakers.

^{3.} Krishnan et al., supra note 1, at 2.

world, including India's, to advance policies designed to mitigate the severity of future warming (i.e., through the reduction of GHG emissions), and to adapt to the impacts of climate change that are already underway and expected to worsen in the future.

The majority of India's population views emissions-reduction efforts positively. A 2022 survey found that the majority (55%) of India's population is in favor of reducing domestic GHG emissions "immediately" and "without waiting for other countries." An additional 17% said that they would favor reducing domestic emissions if all other countries simultaneously reduce their own, and a mere 6% responded that they would favor emissions reduction "only if rich countries go first." Despite this level of public support for emissions reduction, India's climate and energy policies have carried mixed messages thus far.

B. Domestic Activities Under the National Action Plan on Climate Change

India's climate mitigation and adaptation policies were first outlined in the eight missions of its National Action Plan on Climate Change (NAPCC), launched by Prime Minister Manmohan Singh in 2008. These missions, which are implemented through various ministries, are (1) National Solar Mission, (2) National Mission for Enhanced Energy Efficiency, (3) National Mission on Sustainable Habitat, (4) National Water Mission, (5) National Mission for Sustaining the Himalayan Ecosystem, (6) National Mission for a Green India, (7) National Mission for Sustainable Agriculture, and (8) National Mission on Strategic Knowledge for Climate Change.

The National Solar Mission aspires to "establish India as a global leader in solar energy." The mission had the original goal of installing 20 gigawatts (GW) of solar capacity by 2022, but a more ambitious target of 100 GW by 2022 was set in 2015. The central government of India reported in a 2021 document that solar capacity increased to 36.32 GW as of October 31, 2020, with another 58.31 GW set to come online at that time. However, solar accounted for only 2.45% of India's total energy consumption in 2022, up from below 2% in all prior years. This is in contrast with the 55.13% of energy consumption from coal, 27.58% from oil, and 5.75% from gas—all fossil fuels that, when burned for energy, are the main source of GHG emissions.

Another mission aimed at emissions reduction, the National Mission for Enhanced Energy Efficiency, leverages four initiatives to increase energy efficiency in energy-intensive industries. These initiatives are (1) Perform, Achieve, and Trade, which requires the listed industries—or "designated consumers"—to hire an energy manager, file annual energy consumption returns, and conduct regular energy audits so that excess energy savings can be traded (2) Market Transformation for Energy Efficiency, which seeks to enhance energy efficiency in appliances (3) Energy Efficiency Financing Platform and (4) Framework for Energy Efficient Economic Development, which together are intended to accelerate financing for and to scale efficiency-related projects.

The National Mission on Sustainable Habitat contains four deliverables: produce standards for sustainable habitat that balance development and address climate change, build mitigation and adaptation concerns into city planning, design transportation plans to be energy-efficient, and build capacity for additional mission-related activities.¹⁶

The National Water Mission contains five goals around water conservation and management, including one that requires an assessment of the impacts of climate change on water resources.¹⁷

The National Mission for Sustaining the Himalayan Ecosystem aims to better assess the sensitivity of the Himalayan region to climate change, including through, for example, research related to the impacts of warming on its glaciers and water resources. Is It also seeks to advance plans to sustain the ecosystem and conserve its biodiversity. 19

Objectives under the National Mission for a Green India center on the expansion of ecosystem services provided by forests, including carbon sequestration.²⁰ Explicit attention is also given to India's forest-dwelling communities. The mission aims both to increase "forest-based livelihood" for these communities and to help them to adapt to the impacts of climate change.²¹

The National Mission for Sustainable Agriculture attempts to make India's agriculture less resource-intensive and more climate-resilient. For example, it contains sections dedicated to enhancing water use efficiency and energy efficiency by promoting drip and sprinkler irrigation.²²

Anthony Leiserowitz et al., Yale Program on Climate Change Communication, Climate Change in the Indian Mind, 2022, at 3 (2022).

Press Information Bureau, Frequently Asked Questions: National Action Plan on Climate Change (2021), https://static.pib.gov.in/WriteReadData/ specificdocs/documents/2021/dec/doc202112101.pdf.

^{7.} *Îd*.

^{8.} Id.

^{9.} *Ia*

Hannah Ritchie & Max Roser, *India: CO₂ Country Profile*, Our World in Data, https://ourworldindata.org/co2/country/india (last visited Nov. 11, 2024).

^{11.} *Id*.

Press Release, India Ministry of Power, National Mission for Enhanced Energy Efficiency (Aug. 10, 2021).

India Ministry of Power, Bureau of Energy Efficiency, Perform, Achieve, and Trade (PAT), https://beeindia.gov.in/en/programmes/perform-achieve-andtrade-pat (last updated Nov. 11, 2024).

^{14.} Press Release, India Ministry of Power, supra note 12.

India Ministry of Power, Bureau of Energy Efficiency, Energy Efficiency Financing Platform (EEFP), https://beeindia.gov.in/en/programmesfinancing-energy-efficiency/energy-efficiency-financing-platform-eefp (last updated Nov. 11, 2024); India Ministry of Power, Bureau of Energy Efficiency, Framework for Energy Efficient Economic Development (FEEED), https://beeindia.gov.in/en/programmesfinancing-energy-efficiency/framework-for-energy-efficient-economic-development-feeed (last updated Nov. 11, 2024).

^{16.} Press Information Bureau, supra note 6.

^{17.} Id.

^{18.} *Id*.

^{19.} *Id*.

^{20.} *Id*. 21. *Id*.

^{21. 14}

^{22.} *Id*.

Finally, the National Mission on Strategic Knowledge for Climate Change seeks to expand scientific knowledge of local climate and energy issues. This mission includes a set of deliverables, such as new scientific knowledge networks around the study of climate change and its impacts, a series of technical reports on a variety of climate-relevant topics (such as the impacts of climate change on extreme weather events), establishment of 50 chair professorships in climate science and 200 additional climate research professionals, and more.²³

Despite these enacted missions, India's annual $\rm CO_2$ emissions and annual per capita $\rm CO_2$ emissions have continued to rise since 2008.²⁴ Moreover, the carbon intensity—a metric that tracks the amount of carbon emissions per unit of energy—of India's energy system has increased slightly but steadily, from 0.25 kilogram of $\rm CO_2$ per kilowatt hour (kg $\rm CO_2/kWh$) in 1965 to 0.28 kg $\rm CO_2/kWh$ in 2022.²⁵

C. Looking Ahead: India's Domestic and International Climate Commitments and Energy Policy

India is a Party to the Paris Agreement, which requires it to "prepare, communicate and maintain successive nationally determined contributions [(NDCs)] that it intends to achieve" with regard to emissions reduction,26 ultimately with the goal of "[h]olding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change[.]"27 India's most recent NDC, submitted in August 2022 and intended to guide its climate actions until 2030, includes eight strategies to reach net-zero emissions by 2070.28 However, this target is not compatible with the warming limits established under the Paris Agreement, which generally require that countries reach net-zero emissions by 2050.29

While India's climate actions span many different laws and policies, three important recently enacted ones³⁰ are

the National Electricity Plan 2023,³¹ the National Green Hydrogen Mission,³² and the Energy Conservation (Amendment) Act.³³ The National Electricity Plan 2023 establishes the country's energy policy from 2022-2032. It aims to expand all major renewable sources of energy, including solar, wind, and hydropower, such that renewables can support 35.04% of energy demand by 2026-2027, and then to expand renewables once again such that they can support 43.96% by 2031-2032.³⁴ However, coal and gas are expected to continue playing central roles in India's energy mix through 2032.³⁵

India has also looked to bolster its renewable energy supply through hydrogen. Its National Green Hydrogen Mission aims to "enable India to assume technology and market leadership in green hydrogen." The mission will be enacted in two phases: a first phase, which will be implemented until 2025-2026, and a second phase, which will begin in 2026-2027 and be implemented until 2029-2030. The first phase will build demand for and increase the supply of hydrogen. It will also enhance the use of hydrogen in sectors that are already using it. Then, in the second phase, the government will explore new opportunities for hydrogen in sectors like rail and aviation. Finally, a 2023 amendment to India's Energy Conservation Act establishes a pilot carbon trading scheme intended to reduce emissions. 38

Shifts in energy policy are already driving litigation in the form of, for example, challenges to the expansion of renewables.³⁹ In addition, the combination of more frequent and intense climate impacts⁴⁰ and emissions-reduction targets that are inconsistent with broader international commitments to avoid the worst of these impacts make it likely that the judiciary will eventually be asked to opine upon climate and energy disputes or, alternatively, perhaps consider such issues independently given their unique suo moto (or sua sponte) authority (see Part II).

Indeed, in one "historic" decision⁴¹ on a case that challenged wind and solar projects, among other things, in an effort to protect the critically endangered great Indian bustard, Chief Justice Dhananjaya Y. Chandrachud declared that the constitutional rights to equality and life include protection from the impacts of climate change, thus allowing renewable energy projects to proceed. As Chief Justice Chandrachud wrote:

India Department of Science and Technology, National Mission on Strategic Knowledge for Climate Change: Mission Document (2010), https://dst.gov.in/sites/default/files/NMSKCC_mission%20document%201.pdf.

^{24.} Ritchie & Roser, *supra* note 10.

^{25.} *Id*.

^{26.} Paris Agreement to the United Nations Framework Convention on Climate Change art. 4, Dec. 12, 2015, T.I.A.S. No. 16-1104.

^{27.} *Id*. art. 2.

^{28.} Government of India, India's Updated First Nationally Determined Contribution Under Paris Agreement (2021-2030) (2022), https://unfccc.int/sites/default/files/NDC/2022-08/India%20Updated%20First%20 Nationally%20Determined%20Contrib.pdf.

^{29.} United Nations, For a Livable Climate: Net-Zero Commitments Must Be Backed by Credible Action, https://www.un.org/en/climatechange/net-zero-coalition (last visited Nov. 11, 2024).

Climate Action Tracker, *India, Policies & Action*, https://climateactiontracker.org/countries/india/policies-action/ (last visited Nov. 11, 2024).

Ministry of Power, National Electricity Plan, F. No. CEA-PL-11-12/1/2019-IRP Division (Issued on May 31, 2023).

Ministry of New and Renewable Energy, National Green Hydrogen Mission (Jan. 2023).

^{33.} The Energy Conservation (Amendment) Act, 2022.

^{34.} Ministry of Power, *supra* note 31.

^{35.} Climate Action Tracker, *supra* note 30.

^{36.} Ministry of New and Renewable Energy, supra note 32.

^{37.} Id.

^{38.} The Energy Conservation (Amendment) Act, 2022, \$2(ii)(db).

See Unreported Judgments, Writ Petition (Civil) No. 838 of 2019, decided on Mar. 21, 2024 (SC); and Unreported Judgments, Civil Appeal No. 4417 of 2015, decided on May 13, 2015 (SC).

^{40.} Krishnan et al., supra note 1; IPCC, supra note 2.

Agyeya Tripathi, Climate Change Recognized as a Fundamental Right in India: Implications and Solutions, TIMES INDIA (Apr. 10, 2024, 3:33 PM), https://timesofindia.indiatimes.com/blogs/agyeya/climate-change-recognized-as-a-fundamental-right-in-india-implications-and-solutions/.

The right to equality under Article 14 and the right to life under Article 21 must be appreciated in the context of the decisions of this Court, the actions and commitments of the state on the national and international level, and scientific consensus on climate change and its adverse effects. From these, it emerges that there is a right to be free from the adverse effects of climate change.⁴²

Such a declaration could drive additional litigation related to climate impacts brought on constitutional grounds. Navigating climate and energy disputes, however, often requires judges to understand the underlying science of climate change, its impacts, and proposed solutions. To ensure that India's judges are making scientifically informed and just decisions, India's official judicial education channels, such as the NJA and its state analogues, might consider offering climate literacy training to judges.

In the remainder of this Comment, we first describe the structure of India's court system and assess the judiciary's ability to navigate issues arising in climate cases, with special attention given to the NGT as the body primarily responsible for ruling on all environmental matters. We also provide background information on the authority of existing judicial education institutions that could consider adopting programs to train judges in climate science. In the final part of the Comment, we review a selection of cases that could be relevant for informing the ways in which India's judges consider climate and energy issues.

II. The Judiciary and Judicial Education in India

A. Constitutional Structure

The Constitution of India establishes three separate branches of government: the legislature, the judiciary, and the executive.⁴³ The Constitution incorporates a bill of rights,⁴⁴ comprising what are known as Fundamental Rights,⁴⁵ such as the right to equality before the law in Article 14 and the right to life under Article 21 mentioned above. India is a socialist, secular, democratic republic with a parliamentary form of government, which is federal in structure with unitary features.⁴⁶ The Constitution sets up a political system that is federal in nature, featuring a central government and state governments.⁴⁷ The Constitution bestows more power on the central or federal government,

 Unreported Judgments, Writ Petition (Civil) No. 838 of 2019, decided on Mar. 21, 2024 (SC), 21. also known as the Union government, rather than the states.⁴⁸ Indian government has been described as a "quasifederal division of state power with a centralist bias,"⁴⁹ or a form of "centralised federalism."⁵⁰

The Constitution establishes three tiers of the judiciary: the district-level civil and criminal courts, high courts, and the Supreme Court. It also envisages a unified judiciary, which means that all courts throughout the country can adjudicate upon state as well as federal or central laws.⁵¹ The Constitution separates powers between the three branches of government and grants courts the power of judicial review.⁵²

Framed in the post-colonial era, the Constitution seeks to bring to life a vision of an egalitarian social order of an interventionist, welfare-oriented state.⁵³ This is evidenced by the several provisions geared toward bringing about political, social, and economic change. To achieve this, Part IV of the Constitution mandates that states abide by certain "Directive Principles," which are fundamental in the governance of the country and must be applied by the state when making laws,⁵⁴ but are not judicially enforceable.⁵⁵

Though they are nonjusticiable, Directive Principles impose duties on political branches of government (at both the state and federal levels) to pursue certain principles and objectives. Fe Relevant to climate and energy, Directive Principles have been construed to align with fundamental rights provisions of the Constitution to give rise to a robust body of jurisprudence for environmental protection. Fertiles in the provision of the Constitution to give rise to a robust body of jurisprudence for environmental protection.

B. Supreme Court

Set up under Article 124 of the Constitution,⁵⁸ the Supreme Court of India is the highest court in the country with supremacy over all lower courts, including high courts of every state. The Supreme Court has original, appellate, and advisory jurisdictions,⁵⁹ and its decisions have the binding force of law across the country, including on all state courts and governments.⁶⁰ The Supreme Court consists of 33 justices, in addition to the Chief Justice of India,⁶¹ that typically adjudicate in panels of two or three judges.

Aparna Chandra et al., The Supreme Court of India: A People's Court, 1 Indian L. Rev. 145, 151 (2017).

^{44.} Id.

^{45.} India Const. pt. III.

National Portal of India, Governance & Administration, https://www.india. gov.in/topics/governance-administration (last visited Nov. 11, 2024).

Ambar Kumar Ghosh, Observer Research Foundation, ORF Occasional Paper No. 272, The Paradox of "Centralised Federalism": An Analysis of the Challenges to India's Federal Design 2 (2020).

^{48.} *Id.* at 3.

Tarunabh Khaitan, Killing a Constitution With a Thousand Cuts: Executive Aggrandizement and Party-State Fusion in India, 14 Law & ETHICS HUM. RTS. 49, 52 (2020).

^{50.} GHOSH, supra note 47, at 3.

^{51.} Chandra et al., supra note 43, at 151.

^{52.} *Id*. 53. *Id*.

^{54.} Devdatta Mukherjee, Judicial Implementation of Directive Principles of State Policy: Critical Perspectives, 1 Indian J. L. & Pub. Pol.'y 14, 20 (2014).

^{55.} Chandra et al., *supra* note 43, at 151.

Jeffrey Usman, Non-justiciable Directive Principles: A Constitutional Design Defect, 15 Mich. St. J. Int'l L. 643, 643 (2007).

Manoj Mate, Globalization, Rights, and Judicial Review in the Supreme Court of India, 25 Wash. Int'l. L.J. 643, 661 (2016).

^{58.} India Const. art. 124, cl. 1.

Supreme Court of India, *Jurisdiction*, https://www.sci.gov.in/jurisdiction/ (last visited Nov. 11, 2024).

^{60.} Chandra et al., supra note 43, at 151.

National Portal of India, Judges of Supreme Court, https://www.india.gov. in/my-government/whos-who/judges-supreme-court (last visited Nov. 11, 2024).

However, for adjudication of cases that involve significant constitutional issues, Supreme Court judges sit on a special "constitutional bench," which consists of a panel of five or more judges.⁶²

Supreme Court judges are appointed in accordance with Article 124 of the Constitution, which states that the president shall appoint a judge to the Supreme Court after consultation with judges of the high court and the Supreme Court. ⁶³ Judges appointed to the Supreme Court hold office until they attain 65 years of age, unless they are removed from office by an order of the president pursuant to a parliamentary special majority. ⁶⁴

The Supreme Court has interpreted the scope of Article 124 through three major decisions, giving rise to the existing "collegium system" of judicial appointments. Under this current system, the Chief Justice of India, along with two or four other senior judges of the Supreme Court, consult with the president and recommend judges for appointment to the Supreme Court. Therefore, the substantive power of judicial appointments vests with the judiciary itself, and the president functions merely as a nominal head in judicial appointments.

C. High Courts and Tribunals

High courts in India are the highest judicial authorities at the state level. India's 25 high courts are analogous to U.S. state supreme courts, in that their decisions are binding throughout the state or states over which they have jurisdiction. High courts in India have their own Chief Justice, and judges are appointed through a similar collegium system to Supreme Court judges. However, it is the Chief Justice of a high court that recommends judges for appointment (rather than the Chief Justice of the Supreme Court), and it is the governor of that state that is consulted in judicial appointments (rather than the president). Decisions of the high courts may be appealed to the Supreme Court, by certification of the high court itself or by an application for special leave or permission to appeal from a high court decision. To

India also has several tribunals, quasi-judicial bodies that are established to adjudicate disputes in relation to

62. Manoj Mate, The Rise of Judicial Governance in the Supreme Court of India, 33 B.U. Int'l L.J. 169, 173 (2015).

specific matters.⁷¹ These tribunals exercise their jurisdiction in accordance with their authorizing statutes.⁷² Tribunals proliferated out of the need for speedy and effective dispensation of justice in addition to the need for technical expertise and knowledge in specialized areas of law that traditional courts lacked, including environmental law, in the form of the NGT described in Section II.D.⁷³

Decisions of tribunals may be appealed to the Supreme Court.⁷⁴ Article 136 of the Constitution grants discretion to the Supreme Court to hear appeals "from any judgment, decree, determination, sentence or order in any cause of matter passed or made by any court or tribunal in the territory of India," thereby giving the Supreme Court broad powers to exercise appellate jurisdiction over decisions of all subordinate courts.⁷⁵

D. National Green Tribunal

The NGT is a specialized environmental tribunal that was formed under the National Green Tribunal Act of 2010 (NGT Act) to hear and adjudicate multidisciplinary issues related to the environment. ⁷⁶ Cases that are heard by the NGT include those pertaining to environmental protection and conservation of forests and other natural resources. ⁷⁷

The scope of the NGT's jurisdiction is specified in §14 of the NGT Act. It includes all civil cases involving a substantial question relating to the environment, and that of the enforcement of any legal right relating to the environment, where such a question arises out of the implementation of statutes enumerated in the Act.78 The list of statutes includes the Environment (Protection) Act of 1986 (the umbrella environmental legislation), the Water (Prevention and Control of Pollution) Act of 1974, and the Air (Prevention and Control of Pollution) Act of 1980.79

The NGT is empowered to provide relief and compensation to victims of pollution and other environmental damage arising under these specified statutes, as well as orders for restitution of property damage and for restitution of the affected environment.⁸⁰ The NGT also has the power to hear cases that deal with the implementation of rules or regulations issued by the executive branch under powers delegated by those specified statutes.⁸¹

Under \$18 of the NGT Act, an application may be filed with the NGT by (1) the person who has sustained an injury; (2) the owner of the property to which the damage has been caused; (3) the legal representatives of the deceased person where death has resulted from environmental dam-

^{63.} India Const. art. 124, cl. 2.

^{64.} *Id.*; *Number of Times Impeachment Proceedings Were Initiated Against a SC or HC Judge*, Sup. Ct. Observer (Mar. 28, 2018), https://www.scobserver.in/journal/number-of-times-impeachment-proceedings-were-initiated-against-a-supreme-court-or-high-court-judge.

^{65.} Ajoy Karpuram, How Do We Appoint Supreme Court Judges?, SUP. CT. OBSERV-ER (Aug. 28, 2021), https://www.scobserver.in/journal/how-do-we-appoint-supreme-court-judges

^{66.} *Id*

^{67.} Recasting the Judicial Appointments Debate (Centre for Law and Policy Research, Working Paper No. 1, 2014), https://clpr.org.in/wp-content/uploads/2014/02/Judicial-Appointments-Debate.pdf.

^{68.} Certain high courts have jurisdiction over more than one geographical state. For example, the High Court of Maharashtra and Goa prevails over the states of both Maharashtra and Goa.

India Department of Justice, Appointment Division, https://doj.gov.in/deskside (last visited Nov. 11, 2024).

^{70.} Supreme Court of India, supra note 59.

Law Commission of India, Report No. 272, Assessment of Statutory Frameworks of Tribunals in India (2022).

^{72.} *Id*.

^{73.} *Id*.

^{74.} Supreme Court of India, supra note 59.

^{75.} Chandra et al., supra note 43, at 153.

^{76.} NGT Act §3.

^{77.} *Id.* pmbl.

^{78.} *Id*. §14.

^{79.} Id. sched. I.

^{80.} *Id.* §15.

^{81.} National Green Tribunal, INDIA L. OFFS. LLP (Feb. 28, 2023), https://www.indialawoffices.com/knowledge-centre/national-green-tribunal.

age; (4) an agent of any of the above categories of persons; (5) any aggrieved person (including any representative body or organization); or (6) the central or state government or the Central or State Pollution Control Boards or a local authority, or any environmental authority established under the Environment (Protection) Act of 1986.⁸² The NGT Act further mandates that the NGT must dispose of cases as expeditiously as possible, and within a maximum time frame of six months.⁸³

The NGT is endowed with appellate jurisdiction under the NGT Act, which permits any person aggrieved by an order or decision of the NGT to file an appeal before the NGT within 30 days from the date of the order or decision. In its decision in Samata v. Union of India, the NGT relaxed standing rules for the filing of applications before it. The NGT held that the term "aggrieved persons" found in the NGT Act includes associations of persons likely to be affected by the order and functioning in the field of the environment. The NGT derives its power from statute and therefore does not have the same common-law adjudicatory powers as the high courts and the Supreme Court. However, it has still seen some success in relaxing procedural and technical complexities and building on international principles of environmental law.

E. Litigation and Scope of Judicial Powers

Article 32 of the Constitution provides the right to file an application before the Supreme Court for the enforcement of fundamental rights. It simultaneously confers original jurisdiction on the Supreme Court to issue orders, directions, or writs for such enforcement. Through a series of decisions, the Supreme Court interpreted Article 32 to bring within its scope public interest litigation (PIL) cases against arbitrary government action or failures.

In the 1970s, the Supreme Court began expanding and relaxing the standing requirements for Article 32 claims brought against the government that involved human rights violations, social injustice, and environmental destruction. This led to the evolution of several PIL cases, a form of non-adversarial litigation that may be brought by "any citizen who is acting bona fide and who has sufficient interest" in a public interest claim. The Supreme Court thus enabled third-party standing in litigation on issues

82. NGT Act §18.

of public importance.⁹³ Since then, PIL cases have been successful in bringing about various social reforms, from enshrining a right to privacy,⁹⁴ to developing guidelines for accused persons being held pending trial.⁹⁵

The Supreme Court encouraged PIL cases by waiving formal pleading requirements as well. The Court formed its own "epistolary" jurisdiction when it treated news reports and letters as petitions under Article 32. The Supreme Court also has suo moto (or sua sponte) jurisdiction, meaning that the Court can identify issues that are not formally brought before it but may be found in media reports or topics of national conversation, which could conceivably include issues of climate and energy. The Supreme Court's suo moto powers have been exercised in issues of environmental law, and could conceivably include orders and directions on climate and energy issues. In addition, the Supreme Court has advisory jurisdiction in matters that may be specifically referred to it by the president.

In allowing PIL cases, the Supreme Court has asserted policymaking functions through the expansion of its own equitable and remedial powers. ¹⁰¹ Through environmental law PIL cases and decisions, the Court has been instrumental in developing legal standards and rules for the enforcement of environmental statutes and principles, such as the doctrines of tort law, strict liability, ¹⁰² and public trust. ¹⁰³ The Supreme Court has attempted to hold the central and state governments accountable for implementation of environmental regulations through these PIL cases, ¹⁰⁴ which has led to recognition of the right to clean air, water, and a healthy environment as an implicit part of the right to life. ¹⁰⁵

The wide scope of the Supreme Court's remedial powers is seen through the variety of orders it has issued of public importance, ranging from a continuing mandamus preventing the use of forest areas for development projects or tree felling, 106 the constitution of an expert committee to examine the NAPCC, 107 or directions to the NJA to incorporate training programs pertaining to cases involv-

^{83.} *Id*.

^{84.} Id. §16.

Unreported Judgments, NEAA Appeal No. 10 of 2010, decided on Dec. 13, 2013 (NGT), 20.

Eeshan Chaturvedi, Climate Change Litigation: Indian Perspective, 22 German L.J. 1459, 1466 (2021).

^{87.} Ia

India Const. art. 32; Pragyata Singh, Advisory Jurisdiction of Supreme Court Under Article 143, 5 Int'l J.L. MGMT. & HUMANITIES 2492, 2497 (2022).

^{89.} India Const. art. 32.

^{90.} Mate, supra note 62, at 205.

^{91.} Id. at 175.

Susan D. Susman, Distant Voices in the Courts of India—Transformation of Standing in Public Interest Litigation, 13 Wis. INT'L L.J. 57, 69 (1994).

Aparna Polavarapu, Expanding Standing to Develop Democracy: Third-Party Public Interest Standing as a Tool for Emerging Democracies, 41 Yale J. Int'l L. 105, 106 (2016).

^{94.} See Justice K.S. Puttaswamy v. Union of India, (2017) 10 SCC 1.

^{95.} See generally Mate, supra note 62.

^{96.} Burt Neuborne, *The Supreme Court of India*, 1 Int'l J. Const. L. 476, 502 (2003).

^{97.} Id.

Mihir R, 12 Suo Moto Cases Noticed From Media Reports, of 46 [1990-2021], Sup. Ct. Observer (June 4, 2021), https://www.scobserver.in/ journal/12-suo-moto-cases-noticed-from-media-reports-of-46-1990-2021.

^{99.} M.C. Mehta v. Kamal Nath, (1997) 1 SCC 388.

^{100.} Supreme Court of India, supra note 59.

^{101.} Mate, *supra* note 62, at 175.

^{102.} Id. at 184.

^{103.} See M.C. Mehta v. Kamal Nath, (1997) 1 SCC 388.

^{104.} Id.

^{105.} Mate, supra note 62, at 184; Subhash Kumar v. State of Bihar, AIR 1991 SC 420

^{106.} T.N. Godavarman Thirumulkpad v. Union of India, AIR 1997 SC 1228.

^{107.} Unreported Judgments, Special Leave Petition (Civil) No. 25047 of 2018, decided on Mar. 25, 2021 (SC), 3-4.

ing child abuse. 108 PIL cases have led to the enactment of statutes in areas that were lacking, such as a case highlighting sexual violence that led to the passing of the Prevention of Sexual Harassment in the Workplace Act. 109

Judicial Education in India

Recognizing the importance of continued judicial education (CJE), India has established institutions to train judges in various topics at the national and state levels. The NJA was established in 1994 and provides national judicial training programs to high court judges and, in limited cases, to district judges of the states. 110 State judicial academies (SJAs) provide judicial training to regional and local judges starting from the level of a judicial magistrate of the first class, who are entry-level judges that adjudicate civil and criminal matters at the state level.111 The NJA and the SJAs are established as "societies" under the Societies Registration Act of 1860.112 The Societies Registration Act was designed to improve the legal condition of societies established for the promotion of literature, science, or the fine arts, or for the diffusion of useful knowledge, the diffusion of political education, or for charitable purposes.¹¹³

The NJA is funded by the government of India, and it is aimed at strengthening the administration of justice through judicial education, research, and policy development.114 It is headed by the Chief Justice of India, the most superior judge sitting on the Supreme Court of India. 115 The NJA regularly collaborates with foreign authorities and visiting scholars on various topics for its workshops. For example, the annual report from the NJA for 2021-2022 includes a collaborative workshop with the U.S. Federal Judicial Center in Washington, D.C., titled "Cybercrime in the Courts," where judges of U.S. federal district courts and officers of the U.S. Department of Justice have led programs.¹¹⁶ To date, none of the annual reports available from the NJA website beginning with 2008-2009 have featured workshops on topics related to environmental law or climate and energy issues. Yet such topics could fit well within the scope of the NJA's mandate.

The NJA develops its own curriculum in response to the demands of the high courts.¹¹⁷ This involves conducting a survey of "all judges to ascertain their judicial education needs" and then preparing a judicial education needs assessment.118 Once the areas of need are identified, high court judges meet at the NJA to develop the year's calendar for educational programs that will form a part of the NJA curriculum.119 The NJA established a set of common minimum standards for judicial education at a meeting of high court justices, leading to a Model Curriculum for Judicial Education. This model curriculum includes induction training programs and CJE for all tiers of the judiciary, and provides guidelines for the formation of ideal curricula. 120

The NJA "brings together judges from across the country to provide them a forum to jointly identify the major obstacles facing the administration of justice and develop appropriate solutions for overcoming these obstacles."121 Judges are then tasked with implementation of these solutions in a manner that will result in the strengthening of the administration of justice. 122 This is done through conferences of high court judges, who develop a National Judicial Education Strategy. 123 The NJA reportedly organized 60 workshops for a total of 2,512 participants for the 2022-2023 academic year.¹²⁴

The NJA allocates responsibilities between the SJAs and itself to effectively impart judicial education. 125 It exclusively provides training programs for high court justices, which involve orientation colloquia for recently elevated justices, and conferences of high court justices on the development of law and justice systems.¹²⁶ India has 25 SJAs corresponding to the 25 high courts in the country. 127

The SJAs have their own academic calendars that must be approved by the National Judicial Academic Council established by the Supreme Court of India. The SJAs are solely responsible for induction education for entry-level or junior judges such as civil judges (Judicial Division), judicial magistrates of the first class, and metropolitan magistrates. 128 The SJAs provide CJE as needed to meet the needs of judges, but the NJA may fill in gaps where SJAs fall short in providing CJE. 129 In addition, the NJA may provide CJE on issues of national importance as well as advanced CJE, at levels higher than what SJAs provide. 130

^{108.} Unreported Judgments, Suo Moto Writ Petition (Criminal) No. 1 of 2019, decided on July 25, 2019 (SC), 3.

^{109.} Vishaka v. State of Rajasthan, AIR 1997 SC 3011.

^{110.} NJA India, The Institution, https://nja.gov.in/the-institution.html (last visited Nov. 11, 2024).

^{111.} Geeta Oberoi, Limitations of Induction Trainings Offered to Magistrates by State Judicial Educators in India, 4 ATHENS J. L. 301, 309 (2018).

^{112.} Section 1 of the Societies Registration Act, 1860 defines a "society" as [a]ny seven or more persons associated for any literary, scientific, or charitable purpose, or for any such purpose as is described in §20 of this Act, may, by subscribing their names to a memorandum of association, and filing the same with Registrar of Joint-stock Companies form themselves into a society under this Act.

^{113.} The Societies Registration Act, 1860.

^{114.} NJA India, Home Page, https://nja.gov.in/ (last visited Nov. 11, 2024).

^{115.} Id.

^{116.} NJA India, Programme Schedule: National Seminar for Principal DISTRICT AND SESSIONS JUDGES ON LEADERSHIP SKILLS (2021), https://nja. gov.in/All_NJA_Prog_Scheds(From-2003)/2021-22%20(Aug.%202021-May%202022)%20All%20Programmes%20Schedule.pdf.

^{117.} NJA India, supra note 114.

^{118.} Id.

^{119.} Id.

^{120.} NJA India, supra note 110.

^{121.} NJA India, supra note 114.

^{122.} Id.

^{123.} Id.

^{124.} India Department of Justice, National Judicial Academy, https://doj.gov.in/ national-judicial-academy-5 (last visited Nov. 11, 2024).

^{125.} NJA India, supra note 110.

^{126.} Id.

^{127.} NJA India, SJA Programmes, https://nja.gov.in/sja-programmes.html (last visited Nov. 11, 2024); see Oberoi, supra note 111.

^{128.} NJA India, supra note 110.

¹²⁹ Id.

^{130.} Id.

The recruitment of faculty and the governance of SJAs are managed by rules of that state's high court. 131 Every SJA has a governing council or advisory board that is staffed with judges of that state's high court. 132 Therefore, the SJAs are heavily influenced by their parent high court, both in their administration and in the preparation of their curriculum.¹³³ The functions of the National Judicial Academic Council also involve coordinating and monitoring the functioning of the NJA and the SJAs.¹³⁴ The SJAs are mandated to come up with their own curriculum and calendars in a manner such that 80% of the subjects covered are of national relevance and 20% of subjects cover statespecific topics.¹³⁵ It is conceivable that climate and energy topics could be incorporated into SJA curricula as both national (e.g., a program on nationwide GHG emissions and renewable energy development) and state-specific (e.g., a program on the impacts of glacial melt on water resources in affected states) topics.

III. Judicial Considerations of Scientific Evidence in Select Climate Cases

While a growth in climate litigation is likely, it is noteworthy that climate issues have already begun to come before Indian courts. Because these cases have often required judges to weigh scientific evidence, they may provide insights into how judges could handle similar evidence in the future.

Because India does not have legislation that specifically addresses climate change, despite many laws that might address its causes and impacts, and because it is one of the first common-law jurisdictions to have recognized the right to a clean environment as a constitutional right, 136 environmental issues in India, including those related to climate change, are likely to be litigated through PIL. This can be attributed to one of the first PIL cases in India, where the Supreme Court 137 not only established the right to a healthy environment, but also clarified that a breach of this right is a violation of a fundamental right, and one that could be challenged. 138

PIL cases have been used by Indian courts to address neglected environmental problems, improve environmental governance, and protect forests and wildlife. ¹³⁹ PIL cases have also been instrumental in encouraging environmental regulation where there are legislative and regulatory

gaps. 140 Indian courts have time and again relied on international law and jurisprudence as persuasive values in their decisions, 141 with environmental law being no exception.

An example of this is seen in the evolution of the settled principle of the public trust doctrine in India, which relied on the writings of Joseph Sax, principles of international law, and the formative American case of *Illinois Central R.R. Co. v. Illinois*. ¹⁴² Indian jurisprudence on the polluterpays principle, precautionary principle, and intergenerational equity have similarly evolved through international law and principles. ¹⁴³

Ashish Kumar Garg v. State of Uttarakhand is one example of a climate PIL case, in which a public interest writ petition challenging the removal of 2,057 trees to expand a road was filed before the Supreme Court. Because the same case was under adjudication before the High Court of Uttarakhand, the Supreme Court dismissed the petition. The High Court of Uttarakhand weighed the interests of development as well as environmental protection in reaching its decision. The road widening project was ultimately permitted, and the Court noted that the project would reduce GHG emissions by improving the flow of traffic. The road widening treduce GHG emissions by improving the flow of traffic.

The NGT has repeatedly been presented with scientific information in a range of environmental litigation. In *Sukhdev Vihar Welfare Residents Ass'n v. Union of India*, ¹⁴⁶ a residents' association challenged the construction of a waste-to-energy plant operated by the municipality of Delhi before the NGT, claiming that the plant's GHG emissions contribute to climate change. Ultimately, in 2017, the NGT permitted the plant to operate, noting that it was developed as a "Clean Development Mechanism" as registered with the United Nations Framework Convention on Climate Change, and that the municipal corporation adopted appropriate antipollution measures. ¹⁴⁷

The NGT observed the importance of science-based decisionmaking in that judgment, remarking that the waste dumped in Delhi's landfill sites had not been deposited in accordance with the appropriate hazardous waste disposal rules, and that "[s]uch unscientific, unregulated and indiscriminate dumping... results in release of methane, odour and its burning further causes release of green house [sic] gases and to add to all these, leachates causes groundwater pollution." The NGT further noted that "the public at large should not propagate the Principle of

^{131.} Prashant Reddy T. et al., VIDHI Centre for Legal Policy, Schooling the Judges: The Selection and Training of Civil Judges and Judicial Magistrates 12 (2019).

¹³² Id

^{133.} See generally Oberoi, supra note 111.

^{134.} NJA India, National Judicial Academic Council, https://nja.gov.in/NJAC. html (last visited Nov. 11, 2024).

^{135.} *Ia*

^{136.} M.P. Ram Mohan et al., *India's Progressive Environmental Case Law: A Worthy Roadmap for Global Climate Change Litigation*, 54 GEO. J. INT'L L. 489, 491 (2023); Chaturvedi, *supra* note 86, at 1462.

^{137.} Subash Kumar v. State of Bihar, (1991) 1 SCC 598.

^{138.} Mohan et al., supra note 136, at 496.

^{139.} Shyam Divan & Armin Rosencranz, *Public Interest Litigation, in Environ-*MENTAL LAW AND POLICY IN INDIA: CASES AND MATERIALS 199, 199 (3d ed. 2022).

^{140.} *Id*.

^{141.} Birsha Ohdedar, Climate Change Litigation in India and Pakistan: Analyzing Opportunities and Challenges, in Climate Change Litigation: Global Perspectives 103, 107 (Ivano Alogna et al. eds., Brill 2021).

^{142.} *Id. See* 146 U.S. 387 (1892); *see* M.C. Mehta v. Kamal Nath, (1997) 1 SCC

^{143.} Ohdedar, supra note 141, at 107.

^{144.} Unreported Judgments, Writ Petition (PIL) No. 68 of 2022, decided on Sept. 16, 2022 (HC Uttarakhand), 38.

^{145.} Id. at 29.

^{146.} Unreported Judgments, Original Application No. 22 of 2013, decided on Feb. 2, 2017 (NGT).

^{147.} Id. at 31.

^{148.} Id. at 128.

'Not in my backyard' [(NIMBY)]," as it is not founded on any scientific data, but is based on mere apprehensions. 149

In 2016, the NGT heard a case challenging a draft environmental notification¹⁵⁰ that exempted construction activities from environmental impact assessments and environmental clearances.¹⁵¹ The challenge was premised on data that construction has significant environmental impacts and that the construction sector is responsible for 22% of India's total GHG emissions. 152 Declaring the exemption illegal, the NGT noted that the provisions in that notification were "in derogation to India's international commitments to the Rio Declaration, 1992 and Paris Agreement, 2015."153 It further observed that principles 15 to 17 of the Rio Declaration read along with the Paris Agreement, in the face of the precautionary principle, would counsel against adopting the notification as it would mean derogation of these principles.¹⁵⁴ The tribunal further held that development should not be allowed to cause irreparable loss to the environment and ecology, and it should uphold the goal of sustainable development. 155

In a case concerning the climate change impacts of forest fires, an environmental lawyer brought to the NGT's attention the absence of a forest fire management plan in the wake of a large forest fire that impacted an endangered biological area in the states of Uttarakhand and Himachal Pradesh. 156 The applicant noted that forest fires contribute to climate change via emissions of GHGs and exacerbate the melting of glaciers via black carbon. 157 In mandating central and state governments to develop national policy and guidelines around forest fire management, the NGT engaged in discussions on meteorological data regarding rainfall and the amount of estimated carbon emissions released from forest fires. 158 In another application seeking to prevent the production of hydrochlorofluorocarbon (HCFC) greenhouse gas pollution, the NGT highlighted the lack of a regulatory regime for HCFC-23.159

In a youth-led case, a nine-year-old applicant claimed that inadequate implementation of India's environmental policies and international commitments to address climate change violated the right to a clean environment of children and future generations under the principle of intergenerational equity. To support this argument, the applicant described a variety of climate change impacts,

149. Id. at 136.

including sea-level rise, extreme precipitation, biodiversity loss, declining air quality, losses of agricultural yields, and others, often citing global scientific authorities such as the Intergovernmental Panel on Climate Change and the World Health Organization. Although the NGT dismissed the case, stating that there was no reason to presume that the Paris Agreement and other protocols had not been included in the central government's policies, the petition reflects the influence that analogous youth-led climate litigation around the world has had in India.

On two occasions, the NGT was tasked with issuing directions to other branches of government regarding implementation of the NAPCC. In one such case, the NGT directed the Delhi government to submit steps taken to implement a State Action Plan on Climate Change in alignment with the NAPCC.¹⁶¹ In another such case, the NGT held that the remedy seeking to restrain state governments from acting in violation of the NAPCC and state action plans was too general, but stated that the applicant could approach the tribunal for specific violations. 162 The Supreme Court, in a case challenging state regulations that required captive generation companies to purchase small amounts of renewable energy, upheld such state regulations as they were formulated in furtherance of Articles 21, 48A, and 51(a)(g) of the Constitution and were also in alignment with the NAPCC.163

Several other environmental litigation cases in India touch on climate change, such as a challenge to road-widening activities leading to the establishment of an expert committee to formulate guidelines for compensation for tree felling and to conduct an economic assessment of the value of tree felling. 164 In the case *State of Telangana v. Mohammad Abdul Qasim*, 165 although the Supreme Court was dealing with a matter concerning the proper categorization of certain land parcels, the Court took notice of the impacts of climate change on society. The Court highlighted that India's forests serve as a major carbon sink and are a major mode of carbon sequestration for the country. The Court also explained that it will use all possible resources in its endeavor to preserve the environment, including scientific inventions.

The most recent and relevant case that deals with climate change is *M.K. Ranjitsinh v. Union of India*, ¹⁶⁶ mentioned in Part I. In this case, the petitioner sought directions from the Supreme Court for the protection of two endangered bird species, the great Indian bustard and the lesser florican. ¹⁶⁷ The case sought to uphold a previous ban on setting

167. Id

^{150.} Notifications are analogous to agency-made rules in the United States and have the binding force of law.

^{151.} Unreported Judgments, Original Application No. 677 of 2016, decided on Dec. 8, 2017 (NGT).

^{152.} Id. at 37.

^{153.} Id. at 47.

^{154.} Id.

^{155.} *Id*.

^{156.} Unreported Judgments, Original Application No. 216 of 2016, decided on Aug. 3, 2017 (NGT), 3.

^{157.} Id. at 37.

^{158.} Id. at 43-47.

Unreported Judgments, Original Application No. 170 of 2014, decided on Dec. 10, 2015 (NGT), 20.

Unreported Judgments, Original Application No. 187 of 2017, decided on Jan. 15, 2019 (NGT).

Unreported Judgments, Original Application No. 470 of 2016, decided on Jan. 8, 2019 (NGT), 1.

Unreported Judgments, Original Application No. 498 of 2014, decided on July 23, 2015 (NGT), 2-3.

Unreported Judgments, Civil Appeal No. 4417 of 2015, decided on May 13, 2015 (SC), 16-45.

^{164.} Unreported Judgments, Special Leave Petition (Civil) No. 25047 of 2018, decided on Mar. 25, 2021 (SC), 2-3.

^{165. 2024} SCC Online SC 548.

^{166.} Unreported Judgments, Writ Petition (Civil) No. 838 of 2019, decided on Mar. 21, 2024 (SC).

up overhead powerlines in the species' habitat.¹⁶⁸ In a landmark holding, the Court struck down the ban and allowed renewable energy transmission lines to be set up, recognizing the right to be free from climate change as a fundamental right.¹⁶⁹ The Court noted that climate change poses challenges for enjoying the fundamental rights enshrined in Articles 14 and 21 of the Indian Constitution, namely the right to equality and the right to life.¹⁷⁰

The decision explains that the fundamental constitutional rights could not be fully realized with the threat of climate change, and therefore proper enjoyment of those rights means recognizing a distinct right to be free from climate change. The Court noted that by recognizing such a right, states are compelled to prioritize environmental protection and sustainable development to address the root causes of climate change and to safeguard the well-being of present and future generations. It further held that states must take effective measures to mitigate climate change and ensure that all individuals have the necessary capacity to adapt to the climate crisis.

The Supreme Court cited India's obligations in addressing climate change under international law, including the Kyoto Protocol, the Paris Agreement, and the NDCs thereunder in reaching its decision. ¹⁷¹ Identifying India's role on the international stage, it was observed that it is imperative for a State like India to uphold its international law obligations that include mitigation of GHGs, adaptation to climate impacts, and protection of the fundamental right to live in a healthy and sustainable environment. This appears to be a key reason for allowing the renewable energy project at issue to proceed.

The Court also referenced climate change litigation around the world, specifically mentioning *State of the Netherlands v. Urgenda Foundation* before the Supreme Court of the Netherlands, 172 the communication in *Sacchi v. Argen-*

tina sent to the United Nations Committee on the Rights of the Child, ¹⁷³ and the case *Teitiota v. Chief Executive of the Ministry of Business, Innovation & Employment* before the New Zealand Supreme Court. ¹⁷⁴ It observed that judgments from other jurisdictions highlight the global trends in climate change litigation and observed that these other judgments provide a guide for the judiciary to understand its own role in such litigation.

The Supreme Court's acknowledgement that "[c]limate change litigation serves as a pivotal tool in advancing rights-based energy transitions and promoting energy justice, intertwined with human rights principles," could provide a basis for future climate change litigation in India. The Court's remarks suggest that this decision will likely pave the way for more climate change litigation in India.

IV. Conclusion

The existing body of Indian climate litigation indicates that judges have already been asked to adjudicate disputes involving GHG emissions reduction, climate change impacts, energy development, and more. As climate change continues to transform Indian society, government action (and inaction) around climate change mitigation and adaptation issues is likely to spawn new and complex lawsuits throughout the country.

Given this expected uptick in climate and energy litigation, and the expansive array of judicial education institutions focused on developing scientific programs on topics related to national and subnational interests throughout the country, India's existing judicial education authorities are well-positioned to provide climate literacy training to judges at all career levels. Such training will allow judges in India to expediently adjudicate these cases in a scientifically informed and just manner.

^{168.} *Id*.

^{169.} Id. at 17-25.

^{170.} Id. at 21-22.

^{171.} *Id*.

^{172.} *Id.* at 32.

^{174.} *Id*.

^{175.} Id. at 24.