

# Sustainable Development with Renewable Energy and Impact on Human Rights in India

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**Abstract-** *Human rights and environmental challenges frequently coexist and are closely related. Although these connections are becoming more widely acknowledged, considerable work needs to be done in this area in order to promote solidarity and support the creation of a movement that addresses environmental and social justice struggles side by side. The protection of the environment for the benefit of all people must be done immediately and urgently, and the human rights framework offers an unquestionable moral and legal rationale for doing so. The primary goals of sustainable development are environmental sustainability and the promotion, protection, and fulfilment of human rights. The right to live in a pollution-free environment has been recognized by the Supreme Court of India as a basic right under Article 21 of the Indian Constitution after taking cognizance of the issue and exercising its judicial creativity. In addition, because the right to development places people at the centre of development, the state is obligated to make sure that its citizens receive the advantages of growth. In light of trends supporting growing reliance on renewable energy sources across several concurrent policy contexts, this study makes the case for the existence of a human right to access clean energy. It is possible to use the current international framework for the defence and advancement of human rights to support the right to access energy for personal gain. It is asserted that the intergovernmental concerns for both human advancement and environmental sustainability are more accurately represented by a human right to access clean energy. While such a right can be used to satisfy fundamental human needs, raise living standards, uphold human health, and reduce poverty, it can also help ensure the effective use of the planet's natural resources, prevent climate change, and protect the environment.*

**Keywords:** *Sustainable Development; Renewable energy; Clean Energy Sources; Human Rights; climate change*

## INTRODUCTION

Sustainability is a 'buzz' word in present scenario. In today's global environment every country is focusing on

sustainable development. Sustainable Development implies meeting the need of present without compromising the ability of posterity to meet their needs. (Brundtland Commission, United Nation, 1987). In other words, sustainability is the long-term maintenance of responsibility, which has environmental, economic and social dimensions. In this paper the intricate relationship between Sustainable Development, renewable energy

sources, and impact on human rights is described briefly. Sustainable Development aims to encounter the current needs without cooperating future generations' requirements and rights. Technological and scientifically advancements playing crucial role for the achievement sustainability through availability of pioneering solutions for environmental and social challenges. Technology and Science could boost human rights by improve and access basic services, education, and healthcare, also pose risks i.e. privacy violations, discrimination, and exacerbating social inequalities. It's indispensable for ensuring that sustainable development initiatives leverage technology and science to protect and promote human rights for all.

The Brundtland Commission endeavoured to found a connection between environmental stability and economic development in the report entitled, "Our Common Future", in 1987.<sup>1</sup> According to the report, the Brundtland Commission's brief define sustainable development, that "The ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs". In this paper the researcher had describe the development as the asserts that while economic growth is necessary to encounter human desires, justice in the distribution of resources among the

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<sup>1</sup> Information Technology Act 2000, India, available at : [https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015\\_SD\\_concept\\_definiton\\_rev.pdf](https://sustainabledevelopment.un.org/content/documents/5839GSDR%202015_SD_concept_definiton_rev.pdf)

poor is also necessary, and effective citizen engagement promotes equity.<sup>2</sup> Several innovative and attractive approaches to sustainable development are emerging, such as sustainable development, which now prioritizes the development of "sustainable communities," "sustainable societies," "sustainable human security" and "green development."<sup>3</sup> Human rights must be recognized and actively protected in order for sustainable development to occur. Since humans have a right to a certain level of fundamental living circumstances, they are at the centre of sustainable development. The growing degree of uncertainty for the environment that supports and surrounds us is given a human face by successfully tying human rights and sustainable development together, which has an immediate influence on everyone's well-being.<sup>4</sup> The connection between human rights and sustainable development is obvious: without the fundamental rights to clean air, water, and land, it is impossible to fulfill the right to life. A human rights perspective enables decision-making to place a high priority on everyone's quality of life.

The precondition and essential need for human progress and development is dependable on forms of energy. The provision of energy has always been indispensable for the advancement and development of humanity. In its 1987 report "Our Common Future," the Brundtland Commission placed a strong emphasis on sustainable development and noted that "energy is necessary for daily survival." Its long-term availability in growing amounts from sources that are dependable, secure, and ecologically sound is vital to future growth.<sup>5</sup> The energy sector is crucial to a country's social and economic development, but the use of energy-producing resources like coal, natural gas, and oil has augmented proportion of global greenhouse gas emissions and made fossil fuels scarcer with increasing in the level of demand for energy consumption worldwide. Raising the level of living through the establishment of dependable and disinfected energy resources is crucial for sustainable development, which is defined as the capacity to satisfy the demands of the present without

jeopardizing the rights of future generations to satisfy their own needs.<sup>6</sup>

The adoption of the Agenda for Sustainable Development–2030 represents a paradigm shift in favour of a more equitable and sustainable growth model. Its concept of sustainability, which prioritizes equality and non-discrimination in all endeavours, which is based on the Universal Declaration of Human Rights and other international human rights standards. An approach to development that is grounded in human rights ensures that the outcomes are more robust, effective, and long-lasting. The "leaving no one behind and reaching the furthest behind first" goal of the 2030 Agenda is basically a promise made to and for right-holders, enabling them to take an active role in sustainable development.

The UN needs to put human rights at the centre of all its operations, as COVID-19 has emphasized the significance of human rights to sustainable development. More than ever, the epidemic has demonstrated the interconnectivity with human rights and the need for a comprehensive strategy to report the structural injustices that the pandemic has so brutally exposed. Building a new social contract based on human rights, gender equality, and equitable chances for all is a historic opportunity presented by the COVID-19 recovery. Human rights can improve results for everyone and move us closer to attaining the Sustainable Development Goals (SDGs) if we all work together in solidarity.

Indian scenario for the advancement of energy sources  
India is a fast-growing economy and this high economic growth in India is increasing the demand for energy and to meet this demand India requires more and sustainable energy sources. Indian economy faces a challenge of growing population and deterioration of environmental, the way of sustainable development. The breach between demand and supply of energy of Indian economy projected to growth in the future. In 2021, the energy requirement was 12,75,534 MU and the availability was 12,70,663 MU, i.e., a deficit of 4,871 MU which is 0.4% even peak demand being as high as 1,90,198 MW.<sup>14</sup>

<sup>2</sup> *Information Technology Act 2000, India, available at* : [http://www.hks.harvard.edu/sustsci/ists/docs/whatisSD\\_env\\_kates\\_0504.pdf](http://www.hks.harvard.edu/sustsci/ists/docs/whatisSD_env_kates_0504.pdf)

<sup>3</sup> *Information Technology Act 2000, India, available at* : [http://shodhganga.inflibnet.ac.in/bitstream/10603/46343/7/07\\_chapter%202.pdf](http://shodhganga.inflibnet.ac.in/bitstream/10603/46343/7/07_chapter%202.pdf)

<sup>4</sup> *P.S. Jaswal and Nishtha Jaswal, Environmental Law: Environment Protection, Sustainable Development and the Law, Allahabad law agency, U.p., India 3rd Edn 2009.*  
<sup>5</sup> *Usha Tandon (ed.), Energy Law and Policy 49 (Oxford University Press, New Delhi, 1st edn., 2018)*

<sup>6</sup> *United Nations World Commission on Environment and Development, "Our Common Future" 16 Oxford University Press (1987)*

Rising income and growing urbanization are also responsible for higher demand of energy for domestic purposes. The higher demand for transportation, infrastructure, capital goods, and industrial operations are the main driving forces for increased energy demand in industrial sector. In agriculture sector, wider scope for mechanization, enhanced use of groundwater for irrigation has pushed the demand of energy. The increased uses of electric vehicles and induction cook stoves have also enhanced the demand of energy.

As per the Key World Energy Statistics Report, the total amount of electricity generated in 2019 was 26,936 TWh in 2021. Of this, 36.7% was derived from coal, 2.8% from oil, 23.6% from natural gas, 10.4% from nuclear energy, 15.7% from hydropower, and only 10.8% from other renewable sources indicates the percentage of electricity generated from coal was significantly higher than that of other alternative energy resources growth ration of Electricity Sector from 1917–2021. In the year 2021, India's overall installed capacity for electricity generation was 3,82,151 MW, and the gross electricity generated by utilities was 13,73,180 GWh. of this, 9,81,443 GWh (71.47%) were based on coal, 50,944 GWh (3.71%), hydro 1,50,300 GWh (10.95%), nuclear 43,029 (3.13%), and renewable resources were 1,47,248 GWh (10.72%). Total population of over 1.21 billion in 2011 (second only to China), India is predicted to surpass 1.512 billion by 2030 that continues to increasing higher ration of people per year than any other nation of the world, and several states, like Maharashtra and Uttar Pradesh, have higher populations that are on par with or higher than those of many other nations of world. By 2035–2040, India's energy consumption will surpass that of all other major economies, with coal and oil accounting for the majority of this demand, followed by renewable energy. In place of gas and oil, renewable energy is currently the country's second-largest source of energy generation.

Since 1990, annual carbon dioxide emissions in India have increased by more than 300 percent to reach a record high of 2.56 billion metric tons (GtCO<sub>2</sub>) in 2019. The staggering growth in emissions means India is now the third-biggest carbon emitter worldwide, accounting for seven percent of global emissions in 2020. However, per capita emissions in India are considerably lower than in many any other countries, at just 1.77 metric tons per person. This is well below the global average For India to experience sustainable development and prevent the catastrophic effects of climate change, a swift switch to renewable energy is required. Achieving

sustainable energy for sustainable development with lower carbon emissions can be greatly aided by the use of renewable energy. Renewable energy has previously been shown to be able to lower carbon emissions while meeting energy needs sustainably. Renewable energy has already been shown probability of lower carbon emissions and sustainably meet energy demands. India has recently concentrated on producing wind and solar energy to generate a sustainable energy supply route continuously. However, raising the proportion of renewable energy, decentralization of renewable energy generation is being encouraged. In the year 2023, more over 64 GW of solar energy capacity has been installed thanks to the combined efforts of the Union and the States.

It is evident of renewable resources are affordable, which provide harmless environment, and could be used in locations where grid-connected energy supplies are not feasible. By 2022, India aimed to achieve 175 GW of renewable energy, of which 100 GW from solar power, 60 MW from wind power, 5 from small hydropower, and 5 from biomass power. Even though the construction of renewable energy has recently advanced, particularly in the solar and wind energy sectors, there are still many obstacles in the way. We must quickly find workable solutions to overcome these challenges in order for India to meet its 2030 target of 500 GW of renewable energy production.

In order to become a global leader in renewable energy and meet its energy needs entirely through the use of renewable sources, India may use its vast potential for renewable energy through the adoption of investor-friendly legislative measures and successful legal actions. An environmentally friendly energy source is crucial for sustainable growth. It is anticipated that the exponential growth in energy demand over the last few periods would continuously and investment level in the renewable energy area could be ensure a sustainable supply of energy for sustainable development, based on an analysis of future energy usage. Progress in socioeconomics and human development depend on a sustainable energy supply and security.

India needs a suitable policy and innovation driven context to deploy clean energy technologies on a massive scale. It requires more and faster deployment of large-scale solar, wind and hydro power to enable greater electrification across the country. It also requires the expansion of new fuels, such as liquid biofuels, solar power, wind power, hydro power, nuclear power, geothermal energy and biogas. Energy efficiency must

improve significantly, and carbon removals will have a critical role in moving towards zero carbon emissions. India has opportunities to chart out its own unique development pathway rather than take up fossil-fuel driven paths previously pursued by developed economies. For Indian economy to ensure that its energy pathway is socially inclusive, economically viable and ensures long term sustainability of resources. In order to achieve economic progress, India must meet its energy needs. Following China and the United States, India is on the third-largest emitter of carbon dioxide in the world and climate change has probable to upset the global ecological balance because of rising carbon emissions, the Nationally Determined Contributions (INDCs), which has taken undertaken and responsibilities to meet the indeed for the conservation of energy and submitted to the United Nations Framework Convention on Climate Change (UNFCCC) in the Paris Agreement 2015 and for the proven its useful tools for the transition to renewable energy. The Paris Agreement has set a goal to keep the global temperature increase below 2 degrees Celsius.<sup>7</sup> However for the growing energy needs, India, known as one of the world's biggest producers and consumers of coal, also imports natural gas and crude oil. Four Non-renewable energy sources account for about 58% of the energy demand, whereas installed generation capacity at large contains 42% of renewable energy.<sup>8</sup> India being a tropical country has high potential of renewable energy especially solar energy due to high solar radiation.<sup>15</sup> Solar energy is believed to be the most abundant of all renewables in India.<sup>16</sup> In India, the estimated total renewable energy potential amounts to 1,096GW.<sup>17</sup> Due to the advancement in technologies, waste to energy (WTE) also has enormous potential along with other forms of renewable energy. India has an estimated potential of WTE of 4.137 GW from industrial

and urban wastes including municipal solid wastes.<sup>18</sup> India has good potential of some other untapped forms of renewable energy such as geothermal, tidal and wave energy. Geothermal energy potential is estimated to be 10,600 MW while tidal and wave energy potential ranges from 48 GW to 69 GW. By 2030, India wants to electrify all automobiles and attain 40% of its installed capacity for electricity from renewable sources. These targets are estimated to result in an increase in power requirements of 125 GW and 150 GW, respectively.<sup>9</sup> However, a number of studies have cast doubt on the land-based targets for the deployment of solar energy and have brought attention to the challenges associated with grid access and land-use disputes.<sup>10</sup>

According to Renewable Energy Countries Attractiveness Index (RECAI), India scored 66.2 (2021) with third ranked followed by USA and China and stood on the 87<sup>th</sup> rank in “The Energy Transition Index” 2021 with improved in this biannual report which ranks the top 40 countries of the world based on the attractiveness of investment in renewable energy.<sup>11</sup> With a robust political engagement and developing regulatory framework for the transition to renewable energy resources, India is steadily strengthening its position in the renewable energy area. At the 2015 Conference of Parties 21 in Paris, India pledged to obtain 40% of its electricity from renewable energy sources by 2030 as portion of the INDCs. By 2022, this goal had been met. India has increased the 450 GW INDC objective to 500 GW, with a 2030 completion date. India also promised through the 26th conference of parties (COP26) of the UNFCCC in Glasgow to conquer net zero carbon emissions by 2070.<sup>12</sup> The One Sun One World One infrastructure (OSOWOG) plan, a transnational infrastructure to harness solar energy and supply it effortlessly across borders, was also formally introduced at COP26. During the 2019 UN Climate

<sup>7</sup> Paris Climate Agreement, “Key Outcomes from COP21” Paris, available at: [www.https://unfccc.int/sites/default/files/english\\_parisagreement.pdf](https://unfccc.int/sites/default/files/english_parisagreement.pdf) f. (last visited on March 18, 2022)

<sup>8</sup> World Energy Council, “World Energy Scenarios Composing Energy Futures to 2050” available at: [www.worldenergy.org/wp-content/uploads/2014/09/World-Energy-Scenarios\\_composing-energy-futures-to-2050-Fullreport.pdf](http://www.worldenergy.org/wp-content/uploads/2014/09/World-Energy-Scenarios_composing-energy-futures-to-2050-Fullreport.pdf). (Last visited on March 18, 2022)

<sup>9</sup> Government of India. India's Intended Nationally Determined Contribution, as Submitted to the United Nations Framework Convention on Climate Change. 2016. Available online: <https://www4.unfccc.int/sites/submissions/indc/Submission%20Pages/submissions.aspx> (accessed on 28 December 2019).

<sup>10</sup> Khare, V.; Nema, S.; Baredar, P. Status of solar wind renewable energy in India. *Renew. Sustain. Energy Rev.* **2013**, *27*, 1–10.

<sup>11</sup> NITI Aayog. Report on India's Renewable Electricity Roadmap 2030: Toward Accelerated Renewable Electricity Deployment; NITI Aayog: New Delhi, India, 2015.

Available online: [http://niti.gov.in/writereaddata/files/document\\_publication/RE\\_Roadmap\\_ExecutiveSummary.pdf](http://niti.gov.in/writereaddata/files/document_publication/RE_Roadmap_ExecutiveSummary.pdf).

<sup>12</sup> Patil, M. Modi Government's Big Solar Push Could Run into Land Hurdle the Economic Times 2017. Available online: <http://economictimes.indiatimes.com/industry/energy/power/modi-governments-big-solar-pushcould-run-into-land-hurdle-readwhy/articleshow/57850475.cms>.

<sup>13</sup> Ernst & Young, Renewable Energy Countries Attractiveness Index (RECAI) 2021, available at: [https://www.ey.com/en\\_in/recai](https://www.ey.com/en_in/recai). and World Economic Forum (WEF), “The Energy Transition Index and Fostering Effective Energy Transition 2021” available at: <https://www.weforum.org/reports/fostering-effective-energy-transition-2021/pdf>.

<sup>14</sup> Ministry of Environment, Forest and Climate Change (MoEFCC), “India's Stand at COP 26” available at: <https://pib.gov.in/PressReleasePage.aspx?PRID=1795071#:~:text=The%20Government%20of%20India%has,held%20in%20Glasgow%2C%20United%20Kingdo>

Action Summit, nations, including India, made commitments to guarantee sustainable actions and boost investments for a low-carbon, sustainable future. The summit reaffirmed that investments in non-fossil fuel-based energy sources are less than those in fossil fuels that emit pollutants. As a result, it was resolved that by 2030, public and private sectors should invest at least \$1 trillion annually in renewable energy.<sup>13</sup>

Implications for human rights in the energy transition  
Increased inequality, negative effects on food, health, and water resources, loss of self-determination for indigenous peoples, and the destruction of sacred sites are just a few violations of human rights linked to the renewable energy industry. Other violations include child labour, forced displacement, land-grabbing, poor working conditions, and restrictions on collective bargaining and workplace organizing. Regarding renewable energy projects in areas inhabited by indigenous populations, the dispossession of their lands continues to be a major problem. An unapproved wind project, for instance, can negatively impact lives by preventing people from accessing food on native grounds where local farming has historically taken place.

Human rights violations associated with the renewable energy business include increased inequality, detrimental effects on food, health, and water resources, loss of self-determination for indigenous peoples, and destruction of sacred sites. Child labour, forced relocation, land grabbing, subpar working conditions, and prohibitions on workplace organizing and collective bargaining are among the other transgressions. The taking of indigenous people's lands remains a significant issue when it comes to renewable energy initiatives in such locations. For example, an unauthorized wind project can have a detrimental effect on people's life by limiting their access to food on native lands where local farming has traditionally occurred.

By 2030, India hopes to achieve its lofty target of 500 GW of renewable energy, or half of its total energy consumption. Experts worry that this push will eventually result in food insecurity though, since the nation will require at least 4,00,000 hectares of land by 2030 to meet its renewable targets. Infrastructure for renewable energy has benefited some local communities economically, but it has also created issues for them. For instance, the installation of solar panels over agricultural land has

caused many villagers to lose their jobs as farm laborers. Local ecosystems and communities have also been greatly impacted by solar parks, with worries about pollinators like bees and butterflies going extinct during construction. Concerns exist over what will occur when the parks are shut down as well. Toxic materials from abandoned solar panels might negatively impact ecological systems if they are not managed appropriately. Rechargeable batteries are also being used much more frequently in energy transition to power renewable energy storage devices and electric cars. These batteries' main constituents include lithium, cobalt, copper, and nickel. Human rights may be in jeopardy during the mining of these basic minerals, though. According to research by Amnesty International, mining for metals and minerals for the energy transition can make human rights violations that already occur in front-line communities including Indigenous peoples worse. To date, more than 500 claims of violations of human rights have been connected to the mining of vital minerals required to achieve net-zero. Governments and the corporate sector may suffer serious consequences if human rights are neglected in energy transition initiatives. Human rights violations may give rise to investor pressure, lawsuits, protests, unfavourable media coverage, and community opposition.

As such, consideration of several vital human rights-related aspects is necessary when transitioning to renewable energy sources:

- [1] Participation Right: All parties involved for transition of energy sources, especially marginalized groups, local communities, and indigenous peoples, should participate meaningfully and inclusively. Making ensuring they are included in decision-making can help to avoid negative effects and guarantee that projects are in mark with the goals and needs of the communities involved.
- Right to Free, Prior, and Informed Consent (FPIC): Renewable energy projects, like sizable wind or solar power plants, ought to honour the FPIC of impacted communities and indigenous peoples. FPIC guarantees these communities the freedom to approve or disapprove of projects that could have an impact on their lands, resources, and means of subsistence.

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<sup>13</sup> U.N. Climate Action Summit, "Action for People and Planet" (2019) available at: [www.un.org/climatechange](http://www.un.org/climatechange)

- **Right to Access and Affordability:** It's critical to guarantee that renewable energy is both inexpensive and accessible to everyone as the transition moves forward. Since energy poverty can worsen already-existing inequities, policies should give vulnerable and marginalized communities priority which comes to energy access.
- **Labor Rights:** The rights of workforces in the fossil fuel industry must be taken into account in the shift to a low-carbon economy. It is imperative to offer sufficient assistance, retraining initiatives, and substitute job prospects to alleviate the societal and financial consequences on impacted labourers and their localities.
- **Right to a Healthy Environment:** Initiatives involving renewable energy must be planned and carried out to minimize damage to the environment and to avoid unfavourable effects on ecosystems and biodiversity. The rights of future generations should be safeguarded by strong environmental regulations.
- **Equality of Rights:** This guarantees that no one will be discriminated against for exercising the aforementioned rights, and it also gives women and other oppressed groups the power to organize and demand the abolition of traditions and practices that prevent them from having equal access to the advantages of development.
- **The right to safeguard the environment:** The preservation of the environment and the mutually reinforcing links between the advancement and defence to human rights and the advancement and preservation of environments are essential to the rights to food, health, shelter, and livelihood.
- **Rights to a fair administrative trial.** These include the following: the right to information and a fair hearing for those who allege they have been threatened or harmed by development projects; the right to redress and accountability for development actors who violate affected parties' rights; and the right to meet with officials in charge of planning or carrying out development activities.

Sustainable human development and human rights are essential to progress and mutually reinforce each other. In instruction to promote the realization of all human rights economic, social, cultural, civil, and political sustainable human development thus seeks to end poverty, advance human dignity and rights, and offer fair opportunities for everyone through good governance. The advancement of

human rights is especially important in light of globalization's propensity to exclude and marginalize underprivileged groups within society as well as those with little financial means. Protection from such marginalization and exclusion is provided by human rights. When there are restrictions on free expression, free association, and the media, when there is a absence of the law and equity, which is widespread discrimination based on race, religion, or sexual orientation, or when a significant portion of the population lives in extreme and dehumanizing poverty, development is not sustainable. In a similar vein, human rights are improved when initiatives to combat poverty or promote gender justice enable people to become According to the UN Declaration of the Right to Development (1986), for human has the right to development and should be informed of their rights. Human rights and sustainable development are more likely to support human choices in a peaceful, pluralistic community than they are in an oppressive setting where threat or disease predominates.

One important aspect of the Universal Declaration of Human Rights is the link between rights and responsibilities. It is the responsibility of every individual and institution in society to protect human rights and "ensure their universal recognition and observance." People "should behave in a fraternal manner toward one another." Article 29 states that "Everyone has duties to the community in which alone the free and full development of his personality is possible." These concepts from the Universal Declaration are important in the context of sustainable human development; social capital is an essential element of advancement.

Development is a human right, conferring to the UN Declaration for the Rights to Development from 1986. The UN World Conference on Human Rights' 1993 Declaration, which states that "the right to development is an inalienable human right and an integral part of fundamental human freedoms," enhanced this declaration. This opinion was supported by the UN's global conferences on women's issues (Beijing), population and development (Cairo), and social development (Copenhagen).

Sustainable human development and human rights are intricately intertwined, mutually beneficial, and multifaceted. The UN Working Group on the Right to Development (October 1995) provides an arguably the best summary of that, stating that the right to development is:

#### Environment instruments

- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar) (1971): Commits countries to protect and sustainably use wetlands are advised to be of importance at an international level. In India no specific corresponding law, but many of the sites designated by India under this Convention, are protected under the Wild Life (Protection) Act 1972, or relevant state laws.<sup>14</sup>
- Convention on International Trade in Endangered Species (CITES) (1972): Prohibits or restricts the trade, between countries, of species of plants and animals considered to be threatened. India implements this through the Export-Import Act<sup>15</sup>
- Vienna Convention for the Protection of the Ozone Layer (1985) and Montreal Protocol (1987): Calls upon countries to take measures to limit or prevent activities that could cause damage to the ozone layer. In India, the Ozone Depleting Substances Rules of 2000, under the Environment Protection Act 1986, are the relevant domestic legislation. Under the Montreal Protocol, India is to phase out most ozone depleting substances (such as CFCs), by 2010. [www.unep.ch/Ozone/pdfs/viennaconvention2002.pdf](http://www.unep.ch/Ozone/pdfs/viennaconvention2002.pdf). [hq.unep.org/ozone/Montreal-Protocol/](http://hq.unep.org/ozone/Montreal-Protocol/)
- United Nations Framework Convention on Climate Change (1992) and Kyoto Protocol (1998): Calls upon countries to reduce emissions that are responsible for global warming and climate change demands that nations cut back on the emissions that are to blame for climate change and global warming. <http://unfccc.int> and <http://unfccc.int/resource/docs/convkp/kpeng.html>.
- Convention concerning the Protection of the World Cultural and Natural Heritage (WHC) (1972): Commits countries to protect outstanding sites of 30 cultural importance, including monuments, buildings, archaeological and other culturally important sites, and of natural importance, including natural features, geographical formations, and natural sites. India's World Heritage sites that are of biodiversity/wildlife significance are not covered by a specific law, but are protected under the Wild Life Act 1972. [www.unesco.org/whc](http://www.unesco.org/whc).
- Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel) (1989): Commits countries to protecting health of human and the environment by minimizing hazardous waste production whenever possible, and regulating the transboundary movement of such wastes. Relevant rules for some hazardous substances have been made by India under the Environment Protection Act 1986. [www.basel.int](http://www.basel.int).
- Convention on Biological Diversity: Framed in 1992 and coming into force in 1993, this legally binding agreement commits member countries to take actions for conservation of biodiversity, sustainable use of biological resources, and equitable sharing of benefits relating to biodiversity. [www.biodiv.org](http://www.biodiv.org).
- United Nations Convention on the Law of the Sea (UNCLOS) (1994): Commits countries to a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment. No specific law has been enacted in India to implement this. [www.un.org/Depts/los/index.htm](http://www.un.org/Depts/los/index.htm).
- Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998): Commits countries to promote shared responsibility and cooperative efforts among Parties in the worldwide trade of certain hazardous chemicals in order to protect health of human and the environment from potential harm and to subsidize to their environmentally sound use, by facilitating information exchange about their characteristics, by providing for a national decision-making process on their import and export and by disseminating these decisions to Parties. [www.pic.int](http://www.pic.int).
- Stockholm Convention on Persistent Organic Pollutants (2001): Commits countries for the protection human health and the environment from persistent organic pollutants (POPs). POPs are chemicals (such as many pesticides) that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the

<sup>14</sup> [www.ramsar.org](http://www.ramsar.org). Accessed on 13<sup>th</sup> April, 2024

<sup>15</sup> [www.cites.org](http://www.cites.org). Accessed on 13<sup>th</sup> April, 2024

fatty tissue of living organisms and are toxic to humans and wildlife. India has only recently (January 2006) acceded to this. [www.pops.int](http://www.pops.int).

#### Human Rights and Instruments of Livelihood

- International Covenant on Civil and Political Rights (ICCPR) (1976), and International Covenant on Economic, Social and Cultural Rights (ICESCR) (1976): Commit countries to respect a number of rights, including that of self-determination, use/disposal of natural wealth and resources, place of residence, and so on. India accepted these Covenants with some qualifications, including for instance that 'self-determination' does not apply to its people. It has also not accepted the Optional Protocol to ICCPR, which would make the rules enforceable in international courts, but the Supreme Court has repeatedly accepted the application of ICCPR in India. [www.unhchr.ch/html/menu3/b/a\\_ceschr.htm](http://www.unhchr.ch/html/menu3/b/a_ceschr.htm) and [www.unhchr.ch/html/menu3/b/a\\_ccpr.htm](http://www.unhchr.ch/html/menu3/b/a_ccpr.htm).
- Universal Declaration of Human Rights (1948): The basic international agreement protecting a series of human rights. [www.un.org/overview/rights.html](http://www.un.org/overview/rights.html).
- UN Comprehensive Human Rights Guidelines on Development-based displacement (1997): Adopted by an experts meeting convened by the United Nations, lays down guidance to countries to minimize forced displacement, and ensure that no human rights are violated while displacing people for development projects and processes. India is yet to formulate a national set of guidelines or rules for displacement, resettlement, and rehabilitation. [www.hri.ca/uninfo/resolutn/forced-evictions.shtml](http://www.hri.ca/uninfo/resolutn/forced-evictions.shtml).
- UN Guiding Principles on Internal Displacement (1998): Prohibits displacement within a country, including in cases of large-scale development projects which are not justified by compelling and overriding public interests. [www.unhchr.ch/html/menu2/7/b/principles.htm](http://www.unhchr.ch/html/menu2/7/b/principles.htm).
- ILO Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries (1989): Provides for comprehensive rights to such peoples, including the right to determine their own developmental priorities. India has not ratified this Convention. <http://www.ilo.org/ilolex/cgi-lex/convde.pl?C169>.
- Draft UN Declaration on Indigenous Rights (1994): A potentially powerful instrument that provides

indigenous peoples the right to self-determination, to not be dispossessed of their lands and resources, and not be displaced from their territories. Unfortunately, has remained a draft for more than a decade. [www.unhchr.ch/huridocda/huridoca.nsf/\(Symbol\)/E.CN.4.SUB.2.RES.1994.45.En?OpenDocument](http://www.unhchr.ch/huridocda/huridoca.nsf/(Symbol)/E.CN.4.SUB.2.RES.1994.45.En?OpenDocument)

#### CONCLUSION

India has the world's fifth largest economy, worth 3.1 trillion dollars, and it is expected to grow to 8.4 trillion by 2030, surpassing Japan.<sup>129</sup> India's development objectives are centered on socioeconomic progress and human well-being. Energy plays a critical part in socioeconomic development. For long-term development, the energy policy should prioritize efficiency and accessibility, as well as security and environmental sustainability. Fossil fuels play a significant part in India's energy security and will continue to do so for the next few decades; nevertheless, these resources are not sustainable due to their scarcity and non-renewability. India is endowed with renewable energy supplies that are endless and thus crucial for sustainable development.

This article demonstrates how human rights ideals and standards have influenced the UN development agenda to prioritize inclusive development. On paper, Agenda 2030 represents a significant advancement in this area. However, the momentum behind Agenda 2030 indicates potential for impact on practice. Using a human rights framework can promote universal access to energy. This conclusion supports including human rights into sustainable development and poverty alleviation efforts. While access to electricity is a well-established human right, there is also a compelling argument for a broader right to sustainable energy. This right meets fundamental human necessities and improves living standards, especially for the poor, without compromising health. It aligns with environmental preservation goals by encouraging efficient and sustainable use of natural resources. Using the term 'clean' promotes energy diversification away from fossil fuels and encourages the adoption of renewable energy targets under climate change and sustainable development policies.

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