



International Journal of Advanced Academic Studies

E-ISSN: 2706-8927

P-ISSN: 2706-8919

www.allstudyjournal.com

IJAAS 2024; 6(4): 117-121

Received: 18-02-2024

Accepted: 23-03-2024

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India's journey towards a greener future: A policy-driven transition

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DOI: <https://doi.org/10.33545/27068919.2024.v6.i4b.1160>

Abstract

India is marching steadily toward sustainability by pursuing various policies and programmes in similar veins as per the commitment to international entities striving for environmental protection, a burning international issue. This paper delves into India's policy-driven transition towards a greener future, exploring its successes, challenges, and future aspirations. This paper aims to analyze the key initiatives undertaken by the Indian government that are shaping this transformation, the obstacles encountered, and the innovative solutions executed. Further, it highlights the implications of India's green journey for domestic and global communities. This research could be beneficial academic scholars, policy makers, and govt. institutions to have an idea about the past environmental practices by India and future agendas for sustainable environment.

Keywords: Green policy, sustainability, India, environment protection, net zero

Introductions

With the surrounding ocean and supporting mountains, 'The Himalayas,' the Indian subcontinent is blessed with abundant natural resources and a vibrant ecosystem. Though India has ample fertile land, plenty of rivers and tributaries, rich mineral deposits, precious green forests, etc., most of such resources remain under-utilized. Further, the threat posed by climate change faces this birthplace of civilization. The foundation of its livelihood is becoming challenging because of rising temperatures, unpredictable weather patterns, and depleting resources (Mehta *et al.*, 2019; Rautela *et al.*, 2015; Singh & Singh, 2021) ^[5, 9, 12]. In light of these overwhelming worries, a quiet revolution is taking place, driven by a powerful mix of technical improvements and governmental changes, that will undoubtedly lead to a greener future. Grove, R. (1993) ^[2], in his study, suggested that with a millennium of history, India has a complex connection with its environment. From the first reverence for nature to later times of exploitation, grasping this historical dynamic might help us address current issues and perhaps even find answers.

Interestingly, Modak *et al.* (2022) ^[6] and Ramesh, S. (2023) ^[8] advocated that a great regard for the natural world was demonstrated by the Indus Valley Civilization (3300–1300 BCE). Rainwater collection, sanitary systems, and reverence for trees were all part of their carefully designed communities, which suggested a peaceful relationship with nature. Significantly, historical research indicated that climate change was a crucial factor in the downfall of the famous Indus Valley Civilization, popularly known as the Harappan Civilization, around 4,000 years ago (Kumar, S. 2019) ^[3]. In that era, a precarious equilibrium existed between human civilization and the environment. The Indus Valley Civilization flourished for centuries, providing evidence of how human growth may be facilitated by acknowledging and appreciating environmental variety. The historical account also acts as a sobering warning, though, that abusing or overusing natural resources can have disastrous results (Petrie *et al.*, 2018; Fisher *et al.*, 2018) ^[7, 11].

Next, the idea of Vasudhaiva Kutumbakam, which means "the whole world is one family," was codified in writings like the Vedas (1500–500 BCE), highlighting our interdependence with the natural world and promoting environmentally friendly behaviour (Maheshwari, A. K. 2021; Saryal, R. 2022; Sethi, and Jena, 2023) ^[4, 10, 11]. By comprehending these age-old teachings, we may work towards a more sustainable future in which people and the natural world live in peace. As empires flourished, the pressure on resources grew. Large-scale agriculture practices, evident in Kautilya's Arthashastra (4th century BCE), led to

deforestation and soil erosion (Kamini, S. 2019) ^[16]. Mauryan Emperor Ashoka's edicts (3rd century BCE) reflected concerns about overhunting and deforestation, but their enforcement remains debatable. Later empires like the Mughals (10th -17th centuries CE) indulged in various wars and destroyed the country's rich environment legacy (Nath, P. 2019) ^[17]. Next, the British rule (17th-19th centuries CE) exploited this golden country's greenery, flora and fauna, and rich agriculture to make their industrial revolution successful (Dastagiri *et al.*, 2014) ^[15]. Despite the various exploitative practices, India's rich tapestry of religions and philosophies nurtured environmental consciousness. For instance, Jainism and Buddhism promoted non-violence toward all living beings (Chapple *et al.*, 2006; Sivakumar, P. 2018) ^[13, 19], while Hinduism enshrined reverence for rivers, mountains, and natural elements (Dwivedi *et al.*, 1984; Ranjan, M. 2010) ^[14, 18].

India's indigenous communities, living near nature, developed a profound knowledge of local ecosystems. Their practices, like community-managed forests and water harvesting techniques, ensured sustainable resource utilization and conservation (Deb *et al.*, 2021) ^[23]. Studying and reviving these practices holds immense potential for contemporary environmental solutions. Further, an ancient environmental history offers a complex narrative. While exploitation periods existed, the underlying ethos of respect and reverence for nature persisted. Moving forward, we must recognize the wisdom of traditional knowledge as Indigenous practices offer valuable insights for contemporary resource management and conservation.

Moreover, integrating ecological consciousness into societal values is crucial for sustainable development to revive the values of harmony and respect (De Groot, R. S. 1987; Rieckmann, M. 2018) ^[22, 24]. The strategies must prioritize economic progress and long-term environmental well-being in the light of balanced development with environmental protection. Further, embracing technological advancements to promote clean technologies holds immense potential for mitigating environmental challenges. Understanding our past relationship with nature empowers us to navigate the present and chart a sustainable future. By learning from mistakes, reviving ancient wisdom, and embracing innovation, India can reclaim its role as a leader in environmental harmony, not just for itself but for the world. India's commitment to a sustainable future has been marked by significant progress through various policies and initiatives aimed at renewable energy, energy efficiency, and emission reduction. The establishment of the National Action Plan on Climate Change (NAPCC) in 2008 (Yenneti, 2016; Dubash & Jogesh, 2019) ^[21, 20] marked a crucial starting point. This comprehensive plan outlined eight missions targeting specific sectors like solar energy, sustainable habitat, and water conservation. Initiatives like the Jawaharlal Nehru National Solar Mission and the Ujala Scheme significantly increased solar energy adoption and energy-efficient lighting solutions across the country (Jebaraj & Iniyar, 2006) ^[25]. India is focused on strengthening and expanding existing initiatives while exploring new avenues for a greener economy. The ambitious target of 450 GW of renewable energy capacity by 2030 reflects the commitment to decarbonization and reduced dependence on fossil fuels.

In the future, India plans to continue its efforts towards greening the country by implementing more stringent

regulations and policies. These policies will promote sustainable practices in all spheres of the economy, particularly in industries such as transport, agriculture, and waste management. These will also emphasize the importance of environmental conservation and the protection of natural resources. India recognizes the vital role of technological advancements in this transition. Emerging technologies like blockchain, AI, and quantum computing are seen as game-changers for environmental protection.

Additionally, supportive policies like the Faster Adoption and Manufacturing of Electric Vehicles schemes pave the way for cleaner transportation solutions. Due to infrastructure costs and eco-trend adoption, India faces challenges in transitioning to non-fossil fuels. Business-friendly policies are needed. Encouraging ESG fund participation, capacity-building, and supporting eco-entrepreneurship are crucial. India's green initiatives have created jobs, attracted investment, and improved living standards, setting a global example for sustainable energy development. These efforts have benefited the environment and led to socio-economic advancements.

This article delves deeper into India's policy-driven transition towards a greener future, exploring its successes, challenges, and future aspirations. This paper aims to analyze the key initiatives shaping this transformation, the obstacles encountered, and the innovative solutions being explored. Furthermore, it will examine the implications of India's green journey for its people and the broader global community. This paper describes India's past policy initiatives in section 2. Section 3 presents challenges and the path forward. The conclusions and recommendations are specified in section 4.

1. India's Past Policy Initiatives

India's journey towards environmental protection and conservation has been marked by numerous policy initiatives over the past decades. Since its independence, India has shown its commitment to sustainable development practices and the livelihood of the people. The major policy initiatives pursued by the Indian government in the past decades are grouped into three categories below:

(a) Environmental Protection and Conservation

During the 1960s and 1970s, the government of India came up with many pacts for India's involvement in international accords and the adoption of significant laws which served as testaments to its dedication to environmental protection. India matched the goals of the Convention on International Trade in Endangered Species (CITES) with its Wildlife Protection Act when it became a signatory in 1976, guaranteeing improved protection for listed species. These acts laid a foundation and are the cornerstone for wildlife and environment conservation in India. It established protected areas for endangered species, regulated trade in wildlife products, and empowered authorities to combat poaching and habitat destruction. India prioritized biodiversity protection, which was backed by the Wildlife Protection Act, having ratified the Convention on Biological Diversity (CBD) in 1992.

Further, by preserving forests and carbon sinks, the Forest (Conservation) Act of 1981 strengthened initiatives under the United Nations Framework Convention on Climate Change (UNFCCC) and Agenda 21 at the Earth Summit in

1992. The Forest Conservation Act of 1981 recognized the vital role of forests in ecological balance and aimed to curb deforestation by requiring government permission for any conversion of forest land. This significantly helped in slowing down the loss of vital green cover. Similarly, the Rio Declaration and Stockholm Declaration ideas were reflected in the Environment Protection Act of 1986, which promoted environmental governance and sustainable development. This act provided a comprehensive legal framework for environmental protection. It empowered the government to set pollution standards, conduct environmental impact assessments, and act against polluters. This act was crucial in establishing a system of environmental governance.

Further expanding the scope towards environmental protection and promotion, the National Water Policy in 1991 was introduced based on considering the growing water crisis as water being an essential requirement for human survival and each economic activity. The policy outlined the strategies for sustainable water management, including conservation, rainwater harvesting, and equitable distribution. This also provided a roadmap for addressing water challenges at a national level. Further, in 2008, the National Action Plan on Climate Change (NAPCC) took place to acknowledge the threat of climate change and outlined eight missions focusing on renewable energy, sustainable habitat, and other vital areas. This marked a significant shift towards holistically addressing climate change.

These initiatives addressed the problems to a certain extent. However, such steps proved meagre at the beginning of the 21st century, and policymakers took further actions to achieve the long-term goals. In this regard, a few more missions were started to promote sustainable development. Firstly, the National Mission for Clean Ganga was launched in 2009. It focused specifically on restoring the iconic Ganga River, a lifeline for millions. It aimed to address pollution, improve water quality, and revive the river's ecological health. Secondly, in 2010, the National Mission for Sustainable Agriculture recognized the environmental impact of conventional agriculture; this mission promoted sustainable practices such as organic farming, soil health improvement, and water conservation. This aimed to transform agricultural practices for a more sustainable future. Thirdly, to improve sanitation and hygiene across the country, a nationwide campaign called Swachh Bharat Mission was started in 2015. This nationwide campaign focused on promoting access to toilets and waste management solutions. Hence, it aimed to address public health concerns and improve environmental sanitation.

Thus, all these acts and initiatives reflect India's commitment to international environmental norms and contribute to achieving Sustainable Development Goals (SDGs) related to environmental sustainability. Such policies also highlight a continuous engagement of India's environmental commitment. From laying the legal foundation to addressing specific challenges and promoting sustainable practices, all these reflect a growing awareness of the need for environmental protection. However, it is essential to acknowledge that implementation, challenges, resource constraints, and the need for public participation remain ongoing issues. As India strives towards a greener future, building upon these existing policies and addressing

their shortcomings will be crucial in achieving lasting environmental sustainability.

(b) Renewable Energy and Energy Efficiency

Renewable energy and energy efficiency are pivotal for India's sustainable development, offering solutions to mitigate climate change, enhance energy security, and stimulate economic growth. By transitioning to clean energy sources, India can reduce greenhouse gas emissions, create jobs, and improve public health and well-being. The governments have taken steps to achieve all such objectives at various levels. Initially, the National Wind Energy Mission was launched in 1982 to promote wind energy development in India. In 2009, Jawaharlal Nehru National Solar Mission was started to produce 100 GW of solar power capacity by 2022 to cater to additional power needs and accelerate the transition to cleaner energy sources, displacing dependence on fossil fuels and reducing greenhouse gas emissions. The recent governments have also exerted much effort to promote infrastructure development in the country's energy field. They started a mission to supply electricity to the country's rural areas and remove the regional disparities between rural and urban people; they also tried to fill the urban-rural divide regarding access to resources and economic development. More energy production is needed to achieve these initiatives. For this, multiple schemes were started to produce more energy and curb pollution in the country. Schemes like Ujjwala Yojana of 2015 to provide LPG connections to poor households, and FAME from 2017 to promote the adoption of electric vehicles in India. To cater to the needs of current times, the government initiated another step in the form of the National Energy Policy 2019, which carries a target to increase the renewable energy share in the country's total energy needs to promote energy efficiency. These schemes, in totality, promote cleaner alternatives for everyday energy needs, further minimizing our carbon footprint, which will be helpful to achieve the objective of net zero emission.

(c) Sustainable Practices and Governance

India's commitment to global agreements like the Paris Agreement demonstrates its resolve towards decarbonization. Initiatives like the Green Skill Development Programme prepare the workforce for green jobs, facilitating a smooth transition to a more sustainable economy. Promoting public participation through the Swachh Bharat Mission fosters behavioural change and collective responsibility toward environmental well-being. The Rio Declaration of 1992 affirmed India's commitment to sustainable development, acknowledging the interconnection of environmental conservation, economic success, and social justice. As the demands of the environment changed, India adopted the Millennium Development Goals (MDGs) in 2000 to raise awareness and promote environmental sustainability. This commitment extended to developing a competent workforce for green jobs through the 2014 Green Skill Development Program. By the second decade of the twenty-first century, the global world had emphasized environmental sustainability, and India, inspired by its old traditions and rich culture, proudly joined the movement. India ratified the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement in 2015, confirming its commitment to a larger

and more ambitious agenda for sustainable development, including greenhouse gas emission reductions. This persistent dedication establishes India as a crucial player worldwide in the battle for a sustainable future.

These programs complement one another to form a multifaceted strategy. By protecting the environment, we can ensure that natural ecosystems continue storing carbon dioxide and remain healthy. Adopting renewable energy sources and energy-saving techniques lowers emissions at the source. Green firms benefit from an environment that supports sustainable practices and governance, enabling individuals to make a positive impact. Despite ongoing obstacles, these policy measures open the door for India's green future. Greater emphasis on development and enhancing public engagement is essential to reaching Net Zero carbon emissions and creating a vibrant green economy for India. These include ongoing implementation and technology improvements.

2. Challenges and the Path Forward

While significant progress has been made, severe challenges like infrastructure costs and eco-friendly business policies still need to be addressed. Encouraging institutional participation in sustainable initiatives and promoting capacity building across sectors are crucial steps towards long-term success (Jebaraj & Iniyar, 2006) ^[25]. India's growth relies on balancing economic progress and pollution control. Its coal-heavy energy mix demands a transition to renewables like wind and solar, but challenges like infrastructure, cost, and grid integration persist. Early-stage development needs government subsidies, creating a delicate balance with responsible spending. As an agrarian nation, India faces threats to its agricultural sustainability due to resource overuse. Building sustainable practices and adapting to climate change through technology and research are crucial for food security and farmer livelihoods. As the world's second-most populous nation, India grapples with a massive waste challenge.

Further, ranking fourth in mismanaged waste, the country battles pollution, resource depletion, and health risks due to inadequate waste infrastructure. Long-term planning and financing are crucial, but so is a cultural shift towards composting recycling, and waste reduction. Rapid urbanization brings its own woes - air pollution, traffic congestion, and inadequate infrastructure. Sustainable urban planning with green buildings, public transport, and efficient waste management is vital. Coastal communities face the brunt of climate change, demanding investments in climate adaptation and disaster preparedness. Balancing economic development with environmental protection requires a just transition, creating new green jobs while empowering vulnerable communities. Access to clean energy, water, and sanitation for all, especially marginalized groups, is vital for sustainable development. Despite challenges like limited resources, knowledge gaps, and policy inconsistencies, India strives towards a greener future, addressing these hurdles to achieve its goals.

Despite these obstacles, India has advanced significantly toward a more environmentally friendly future. A multifaceted strategy involving the government, corporations, civil society, and individuals will be needed to address these issues and ensure a sustainable future for all. Additionally, supporting and incentivizing eco-

entrepreneurship will be vital in building a green and sustainable future.

The following 25 years, or "Amrit Kaal," in India, beckon with the prospect of a greener future. Envision a country with 40% renewable energy, where circular habits turn trash into money and green infrastructure supports smart cities. This ambition necessitates a multifaceted strategy. First, a revolution in renewable energy: picture a landscape dotted with enormous wind and solar farms that would replace reliance on coal. Green hydrogen powers transportation and industry, launching a new wave of green employment. Second, water-saving methods should be considered to cultivate drought-tolerant crops that provide abundant harvests. Imagine rich, organically regenerated soil that is brimming with life. Third, consider a circular economy in which trash is carefully separated and converted into recycled or compostable products. Manufacturers' responsibility for the lifespan of products promotes sustainable design.

Fourth, we should focus on smart and green cities as lush urban areas with environmentally friendly architecture, adequate public transportation, and pure air. Data-driven solutions maximize the distribution of resources, resulting in sustainable and liveable communities. The fifth strategy is climate resilience, which entails fortifying infrastructure and preparing communities for catastrophic weather using early warning systems. Imagine enhanced natural defences achieved by afforestation and mangrove restoration. Sustainable development depends on healthy budgets, state-of-the-art equipment, and environmentally aware individuals. Public awareness initiatives and rewards encourage people to reduce waste and practice responsible consumption. A supporting ecology is created by international cooperation and strict environmental restrictions. With Amrit Kaal, India has a rare opportunity to lead the world in sustainable growth and green innovation while simultaneously ensuring its own environmental security. All the sections of society must go out on this adventure to create a future in which advancement and ecology live in peace.

3. Conclusion and Policy Recommendation

India recognizes the importance of technological advancements, policy reforms, and institutional participation in driving the transition towards a greener and more sustainable future. By embracing emerging technologies, implementing supportive policies, and encouraging eco-entrepreneurship, India is actively working towards achieving its sustainability goals and setting an example for the rest of the world to follow in building a green and sustainable future. In conclusion, India's policies and initiatives have played a crucial role in promoting sustainability and driving the transition towards a greener future.

India's strong industrial base and successful commercialization of renewable energy technologies position it as a global leader in sustainable energy development (Jebaraj & Iniyar, 2006) ^[25]. India's commitment to renewable energy and sustainable practices has positioned it as a great leader in the movement towards a greener environment. In conclusion, India's policies and initiatives have been crucial in promoting sustainability and driving the transition towards a greener future. India's journey towards a greener future is a continuous process

driven by policy reforms, technological advancements, and collaborative efforts. By embracing innovation, implementing supportive policies, and fostering knowledge sharing, India sets an example for other developing nations and contributes to a more sustainable global future.

References

1. Fisher MH. An environmental history of India: from earliest times to the twenty-first century. Vol. 18. Cambridge University Press; c2018.
2. Grove R. Conserving Eden: the (European) East India companies and their environmental policies on St. Helena, Mauritius, and in western India, 1660 to 1854. *Comparative Studies in Society and History*. 1993;35(2):318-351.
3. Kumar S. Environmental factors contribute to the decline of the Indus Valley civilization. *Int. J Hist*. 2019;1(1):48-55.
4. Maheshwari AK. Higher consciousness management: Transcendence for spontaneous right action. *J Manag. Spirit Relig*. 2021;18(6):77-91.
5. Mehta L, Srivastava S, Adam HN, Alankar, Bose S, Ghosh U, *et al*. Climate change and uncertainty from 'above 'below': Perspectives from India. *Reg. Environ Change*. 2019;19:1533-1547.
6. Modak BK, Sarkar M, Bhattacharyya S. Prehistory, History and Contemporary: Evaluation of the Idea of Sustainability in Light of Human-Nature Interphase. In: *Social Morphology, Human Welfare, and Sustainability*. Cham: Springer International Publishing; c2022. p. 33-34.
7. Petrie CA, Parikh D, Green AS, Bates J. Looking beneath the veneer. Thoughts about environmental and cultural diversity in the Indus civilization. In: *Walking with the Unicorn: Social Organization and Material Culture in Ancient South Asia*. Archaeo press, Oxford; c2018. p. 453-474.
8. Ramesh S. The Indus Valley Civilisation: 3000 BC to 1600 BC. In: *The Political Economy of India's Economic Development: 5000BC to 2022AD, Volume I: Before the Indus Civilisation to Alexander the Great*. Cham: Springer International Publishing; c2023. p. 37-75.
9. Rautela P, Karki B. Impact of climate change on life and livelihood of indigenous people of higher Himalaya in Uttarakhand, India. *Am J Environ Prot*. 2015;3(4):112-124.
10. Saryal R. Beyond environmental science: Climate action in Hindu religion and Sant Mat tradition. *Int. Soc. Sci. J*. 2022;72(244):423-435.
11. Sethi RC, Jena A. Indigenous People and Biodiversity Conservation in India: Scrutinizing a Symbiotic Relationship. In: *World Anthropology Congress, 2023 (WAC, 2023)*. Atlantis Press; c2023 Dec. p. 44-56.
12. Singh S, Singh RB. *Simulating climate change and livelihood security*. Springer Singapore; c2021.
13. Chapple CK, editor. *Jainism and ecology: non-violence in the web of life*. Vol. 22. Motilal Banarsidass Published; c2006.
14. Dwivedi OP, Tiwari BN, Tripathi RN. The Hindu concept of ecology and the environmental crisis. *Indian J Public Adm*. 1984;30(1):33-67.
15. Dastagiri MB, Gajula MP, Patil GI. World and Indian agriculture: Revolutions & multi-speed strategies for future.
16. Kamini S. Forests in pre-British India—a study. *Editorial Board*. 2019;8(7):63.
17. Nath P. Climate of conquest: war, environment, and empire in Mughal North India. Oxford University Press; c2019.
18. Ranjan M. 'Living in Harmony with Nature' is a message from ancient Hindu spiritual texts. *Educ. Quest-An Int. J Educ. Appl. Soc. Sci*. 2010;1(1):109-113.
19. Sivakumar P. Ecology and ethics in Jainism and Buddhism. *ZENITH Int. J Multidiscip. Res*. 2018;8(11):112-120.
20. Dubash NK, Jogesh A. From Margins to Mainstream? In India in a Warming World. Oxford University Press; c2019. p. 349-369.
21. Yenneti K. The grid-connected solar energy in India: Structures and challenges. *Energy Strategy Reviews*. 2016;11-12:41-51.
22. De Groot RS. Environmental functions as a unifying concept for ecology and economics. *Environmentalist*. 1987;7:105-109.
23. Deb D, Jamatia M, Debbarma J, Ahirwal J, Deb S, Sahoo UK. Evaluating the role of community-managed forest in carbon sequestration and climate change mitigation of Tripura, India. *Water, Air, & Soil Pollution*. 2021;232(11-17).
24. Rieckmann M. Learning to transform the world: Key competencies in Education for Sustainable Development. *Issues and trends in education for sustainable development*. 2018;39:39-59.
25. Jebaraj S, Iniyan S. Renewable energy programmes in India. *Int. J Global Energy Issues*. 2006;26(3-4):232-257.
26. Earth Action Report. [Internet]. 2023. [cited 2024 May 2]. Available from: <https://www.e-a.earth/plastic-overshoot-day-report-2023/#:~:text=Key%2DHighlights%20from%20the%20report%3A&text=In%202023%2C%2068%2C642%2C999%20tons%20of,the%20end%20of%20its%20life>.