

Protectionism to Coexistence: Tracing India's Legal and Policy Pathways in Wildlife Conservation

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How to cite this paper: Bhojwani, S., Srivastava, A. and Zunder, N. (2025). Protectionism to Coexistence: Tracing India's Legal and Policy Pathways in Wildlife Conservation. *Grassroots Journal of Natural Resources*, 8(3): 611-633. Doi: <https://doi.org/10.33002/nr2581.6853.080325>

Received: 26 August 2025

Reviewed: 26 October 2025

Provisionally Accepted: 31 October 2025

Revised: 15 November 2025

Finally Accepted: 30 November 2025

Published: 31 December 2025

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Abstract

From the Constitutional duties enshrined in the 42nd Constitutional Amendment of 1976, this article charts the development of the country's response to wildlife conservation. The constitutional basis for later laws and policies was established by Article 48A of the Constitution, which requires the State to protect forests and wildlife, and Article 51A(g) also places an equal obligation on citizens. These provisions were codified in the Wildlife (Protection) Act of 1972, and subsequent court rulings have broadened their scope by interpreting environmental protection as a crucial component of the right to life under Article 21 of the Constitution. Flagship projects like Project Tiger and Project Elephant, Project Snow-leopard and Project Crocodile provide insight into the practical effects of this legal regime. Although Project Tiger has seen a remarkable increase in the population of tigers, from an estimated 1,800 tigers in the 1970s to 3,167 in 2022, it has also resulted in socioeconomic problems, such as the eviction of local communities without providing adequate compensation. Even though the government had identified 77 priority railway stretches to be addressed, Project Elephant suggests that habitat fragmentation pressures are becoming more severe, with at least 186 elephants dying in train collisions between 2009 and 2024. Project Snow Leopard, launched in 2009, was an attempt to save wildlife in high altitude regions that required scientific planning coupled with landscape-level governance. Project Crocodile was an example of captive breeding and channelised reintroduction of crocodiles to boost the aquatic ecosystem. The paper examines current community-based models, such as ecotourism and cooperative forest management, while acknowledging the drawbacks of exclusion-oriented conservation. The paper also aims to trace India's legal and policy evolution in wildlife conservation and to assess whether the current transition toward participatory, technology-informed, climate-resilient governance offers a more sustainable future.

Keywords

Wildlife law; Project Tiger; Project Elephant; Conservation governance; Human-wildlife conflict; Co-existence

Introduction

In an era of unprecedented global environmental change, India's biodiversity represents both a vital ecological asset and a profound governance responsibility. The subcontinent harbours some of the world's most iconic species, from the Bengal tiger to the Asian elephant. It also sustains ecosystems that provide critical ecological services to millions of people. Wildlife conservation in India, however, has never been a straightforward pursuit. It is a journey marked by constitutional innovation, ambitious legislative frameworks, judicial activism, and on-the-ground initiatives that reflect both success and contradictions. The modern era of Indian conservation owes much to the constitutional transformation brought by the 42nd Amendment in 1976. Article 48A¹ of the Directive Principles of State Policy requires that "the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country" (Constitution of India, Art. 48A; Pandey, 2007). This provision shifted environmental protection from a discretionary policy concern, often deferred until irreversible damage occurs, into a core responsibility of the State. This indirectly compels subsequent governments to legislate more comprehensively and ensure greater legal clarity and enforcement (Deka, 2022).

Complementing this State obligation, Article 51A(g) of the Constitution² enshrined environmental stewardship as a fundamental duty of every citizen, mandating individuals to protect and improve the natural environment and to have compassion for living creatures (Constitution of India, Art. 51A(g)). This marked a radical departure from earlier models of conservation, formally embedding a shared ethic of responsibility in India's constitutional order. The judiciary has been equally pivotal in reinterpreting and adjudicating constitutional rights to advance conservation. In *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh* (AIR 1987 SC 359)³, the Supreme Court linked environmental degradation with the violation of fundamental rights. In *Mehta v. Kamal Nath* (1997) 1 SCC 388, the Court recognised the Public Trust Doctrine, holding the State accountable for ecological stewardship. Similarly, in *Indian Handicrafts Emporium v. Union of India* (2003) 7 (SCC 589)⁴, the Court upheld prohibitions on wildlife trade, strengthening the Wildlife (Protection) Act, 1972 (WPA)⁵.

Through such cases, the Court expanded Article 21 of the Constitution ("right to life") to include the right to a clean and healthy environment, making environmental protection judicially enforceable (Mitra and Sharma, 2020). This jurisprudence has since become the cornerstone of India's environmental law. The Wildlife (Protection) Act (WPA) of 1972⁶ operationalised these constitutional and judicial mandates by creating a national framework for wildlife conservation. It provided for species-specific protection through schedules, empowered the State to create protected areas such as national parks and sanctuaries, and prescribed penalties for illegal hunting and trade. Subsequent amendments, including recent amendments aligned with CITES obligations, in 2022,

¹ INDIA CONST. art. 48A

² INDIA CONST. art. 51A(g)

³ *Rural Litigation & Entitlement Kendra v. State of Uttar Pradesh*, A.I.R. 1987 S.C. 359; (1986) Supp. S.C.C. 517 (India).

⁴ *Indian Handicrafts Emporium v. Union of India*, (2003) 7 S.C.C. 589 (India); A.I.R. 2006 S.C. 1350.

⁵ The Wildlife (Protection) Act, 1972, No. 53 of 1972, India.

⁶ The Wildlife (Protection) Act, 1972, No. 53 of 1972, India.

reflect the Act's dynamic adaptation to new conservation challenges, ensuring progress and protection (Poonia *et al.*, 2022).

Despite these advances, India's conservation story has been one of both remarkable achievements and enduring tensions. Projects such as *Project Tiger* (1973) and *Project Elephant* (1992) demonstrate the success of protectionist models: tiger populations rebounded from ~1,800 in the 1970s to 3,167 in 2022 (NTCA, 2022), while elephant habitats and corridors remain a national priority (Pandey *et al.*, 2024). Nevertheless, these gains have come at socio-economic costs. The displacement of indigenous communities in tiger reserves, inadequate compensation, and human-elephant conflicts triggered by habitat fragmentation reveal the contradictions of fortress-style conservation (Banerjee and Aiyadurai, 2020; Thapar, 1999). Against this backdrop, this paper undertakes a critical examination of India's shift from exclusion-based protectionism toward a coexistence-oriented governance model, analysing constitutional foundations, statutory frameworks, judicial interpretations, and policy experiences. By evaluating the trajectory of flagship conservation initiatives and the governance challenges shaping their outcomes, the study argues that India's conservation future demands adaptive, community-centred approaches that integrate legal enforcement with livelihood security, technological innovation, coexistence between humans and nature, and climate resilience.

Methodology

Quantitative data on wildlife conservation in India are derived from annual reports and statistics released by the Wildlife Crime Control Bureau (WCCB), Ministry of Environment, Forest and Climate Change (MoEFCC). These bodies collect data from the State Forest Departments, Wildlife Conservation Authorities like NTCA (National Tiger Conservation Authority), Central Zoo Authority, offices of Chief Wildlife Wardens, etc., to recommend policy actions and conservation strategies. This study has relied upon the data from these bodies to identify the major conservation projects and approaches launched by the Government of India to save wildlife that are threatened or critically endangered. Additionally, based on the data, this research applies an interrogative analytical approach to identify the lag between the crisis of wildlife conservation and the approaches undertaken to address the crisis.

This study adopts various tools and methods of a doctrinal and qualitative research, including historical analysis, case-law analysis techniques, policy evaluation framework, thematic analysis, and comparative legal analysis. Historical analysis has been applied to examine the evolution of India's wildlife conservation framework and to critically analyse the ongoing shift from exclusionary protectionism toward coexistence-based governance. The analysis relies primarily on interpretative analysis of legal texts, judicial precedents, public policy instruments, and secondary scholarly sources, without the involvement of human participants or primary field research. Judicial decisions are reviewed using a case-law analysis technique, which shows how courts have expanded the meaning of environmental protection as part of the right to life under Article 21 of the Constitution. This analysis helps evaluate how judicial activism has shaped environmental governance, often filling policy gaps through enforceable directives.

A policy evaluation framework is employed in the third component of the study to assess major flagship programmes-Project Tiger, Project Elephant, Project Crocodile, and Project Snow Leopard using government reports, monitoring data, and scholarly evaluations. The methodology integrates descriptive statistics (e.g., tiger population increase from approximately 1,800 in the 1970s to 3,167 in 2022; elephant conflict data and train collisions) with a qualitative impact assessment focusing on ecological outcomes, governance structures, and socio-economic consequences for local communities. Additionally, this research uses a thematic analysis of contemporary governance challenges, including human-wildlife conflict, funding constraints, institutional fragmentation, and climate-change-driven habitat shifts. These themes are synthesized, drawing from policy statements, government Press Information Bureau (PIB) releases, environmental NGO reports, and recent academic literature.

Finally, the study adopts a comparative legal-philosophical lens in the concluding part of the paper to contrast fortress conservation with emerging coexistence-oriented, community-based models, referencing the Forest Rights Act, Joint Forest Management, ecotourism initiatives, and technological interventions such as AI-based monitoring. This facilitates a balanced evaluation of India's transition from strict protection-driven conservation to rights-aware, adaptive governance strategies. Throughout the research, rigorous secondary source triangulation ensures validity by corroborating key arguments across judgments, legislation, official datasets, and scholarly discourse. The methodology remains non-experimental, desk-based, and analytical, consistent with the declarations that no humans, animals, or indigenous knowledge holders were directly involved in the study.

The Legal and Constitutional Framework of India's Approach to Wildlife Conservation

India's approach to wildlife conservation rests on one of the most comprehensive constitutional and statutory frameworks in the Global South. Unlike many nations where conservation is treated as a matter of executive policy, in India, it has been embedded into the highest legal order and subsequently elaborated through detailed legislation and a robust line of judicial precedents. This chapter analyses the three pillars of this framework: (i) constitutional provisions, (ii) statutory enactments, and (iii) judicial interpretations that together shape the country's conservation ethos.

Constitutional Provisions: From State Obligation to Civic Duty

Before 1976, Indian environmental law was unstructured and ad hoc in character, lacking any general constitutional mandate. The 42nd Amendment brought this to an end by inserting Article 48A⁷ into the Directive Principles of State Policy (DPSP). Although not justiciable, the provision gave future legislation a normative foundation and marked the point at which environmental protection became a constitutional State duty and not merely a matter of policy preference (Pandey, 2007).

⁷ 6) Supp. S.C.C. 517 (India)

Equally revolutionary was the concurrent addition of Article 51A(g)⁸ to the chapter on Fundamental Duties, mandating every citizen to protect and improve the natural environment, including forests, lakes, rivers, and wildlife, and to have compassion for living creatures. As the authors note, this article was revolutionary in creating a shared ethic of stewardship between the State and the citizen (Deka, 2022). By constitutionalising civic duty, India officially recognised that conservation cannot be achieved without people's participation. This twin paradigm of State responsibility and citizen obligation has subsequently been reaffirmed judicially. Thus, in *Rural Litigation and Entitlement Kendra v. State of Uttar Pradesh* (AIR 1987 SC 359)⁹, the Supreme Court used Articles 48A¹⁰ and 51A(g)¹¹ to order a stoppage of limestone quarrying in the Dehradun Valley, creating an express linkage between constitutional obligations and environmental protection. Likewise, in *Indian Handicrafts Emporium v. Union of India* (2003) 7 SCC 589¹², the Court enforced wildlife trade restrictions by invoking the same provisions, demonstrating their continued legal relevance and application.

The Wildlife Protection Act, 1972

The governmental intent to conserve wildlife would have been mere an ideal without legislative translation. The Wildlife (Protection) Act, 1972 (WPA), became the milestone legislation to provide teeth to conservation. The Wildlife Protection Act (WPA) brought a holistic set of provisions that drastically changed India's conservation approach. Its most important contribution was the categorization of animals into six schedules, each bearing a different degree of protection. Species included in Schedule I, i.e., tigers and elephants, were given the maximum protection, with hunting, capture, or trade in such species being considered criminal offences. In addition to species protection, the Act also gave power to the State to notify national parks, wildlife sanctuaries, and, under later amendments, conservation reserves. This Protected Area system then emerged as the core of India's in situ conservation strategy, offering sanctuaries where biodiversity was allowed to recover and flourish.

For effective enforcement, the WPA instituted severe penalties and enforcement mechanisms that set strong deterrents against poaching and illicit trade. It also empowered forest and wildlife authorities to search, seize, and prosecute perpetrators, enhancing institutional capacity to fight threats to wildlife. The Act has been periodically amended over the years to address new conservation issues. The 2002 amendment added the National Board for Wildlife to enhance vigilance, whereas the 2022 amendment brought Indian law in line with international obligations under the Convention on International Trade in Endangered Species (CITES) (Poonia *et al.*, 2022). These amendments reflect the dynamic adaptability of India's conservation law to respond to new challenges like illegal trade in exotic species.

⁸ INDIA CONST. art. 51A(g)

⁹ *Rural Litigation & Entitlement Kendra v. State of Uttar Pradesh*, A.I.R. 1987 S.C. 359; (1986) Supp. S.C.C. 517 (India).

¹⁰ INDIA CONST. art. 48A

¹¹ INDIA CONST. art. 51A(g)

¹² *Indian Handicrafts Emporium v. Union of India*, (2003) 7 S.C.C. 589 (India); A.I.R. 2006 S.C. 1350.c.

Judicial Expansion: The Rise of Environmental Jurisprudence

The judiciary has been the most powerful driver in giving conservation provisions their substantive meaning. Courts have repeatedly expanded the scope of constitutional rights to include environmental protection. In *M.C. Mehta v. Union of India* (1987) 1 SCC 359¹³, the Court interpreted the Right to life to encompass the Right to a healthy environment. This doctrinal leap transformed environmental protection from a policy aspiration into a justiciable, enforceable right (Mitra and Sharma, 2020). This case officially recognised the Right to the Environment under Article 21. Furthermore, in the landmark *T.N. Godavarman Thirumulpad v. Union of India* (1997) 3 (SCC 549), the Court provided a broad, all-encompassing definition of “forest”, ruling that the Forest Conservation Act, 1980, applies to all forested land regardless of official classification. This prevented widespread deforestation and significantly expanded the scope of statutory protections. This redefinition serves as a guiding force in the realm of environmental jurisprudence.

It is also important to note that there has been a significant improvement in the management of protected areas. In *Centre for Environmental Law, WWF-I v. Union of India* (2002), the Court directed states to ensure proper demarcation and management of national parks and sanctuaries, thereby converting legislative intent into enforceable administrative obligations. These cases reflect the judiciary's embrace of doctrines such as the Public Trust Doctrine (*M.C. Mehta v. Kamal Nath* (1997) 1 SCC 388)¹⁴ and the Precautionary Principle, embedding them into Indian environmental law. The cumulative result is a jurisprudence that elevates conservation from statutory regulation to a fundamental right and duty under the Constitution (Agrawal and Pant, 2011).

In *Wildlife First & Ors. v. Union of India* (WP(C) No. 109/2008), the constitutional validity of the Forest Rights Act, 2006 (FRA) was contested on the ground that the Act conflicted with the Wildlife (Protection) Act, 1972, and the Forest (Conservation) Act, 1980. The central debate of the case is between wildlife conservation and the rights of tribal communities. Although the case remains sub judice, a significant interim order was passed on February 13, 2019, directing state governments to evict over 1.7 million forest dwellers whose claims for land rights under the FRA had been rejected. The order was later stayed by the Supreme Court on February 28, 2019, but it elevates the conservation of wildlife to be on an equal footing with the rights of mankind.

In *Goa Foundation v. Union of India & Ors.* (WP(C) No. 460/2004), the Court acted in continuation of a broader environmental matter that specifically dealt with the declaration of Eco-Sensitive Zones (ESZs) around national parks and wildlife sanctuaries. The petitioner sought to regulate activities near protected areas to prevent environmental damage and protect wildlife, asserting that the Ministry of Environment, Forest, and Climate Change (MoEF&CC) had initially issued guidelines for states to declare ESZs. The Supreme Court, in its orders from 2006 onwards, has consistently emphasized the importance of ESZs. A key finding in 2022 directed that a minimum ESZ of 1 kilometre must be maintained around every protected forest, national park, and

¹³ *M.C. Mehta v. Union of India*, A.I.R. 1987 S.C. 359; (1986) Supp. S.C.C. 517 (India)

¹⁴ INDIA CONST. art. 51A(g)

wildlife sanctuary in the country. The Court also ordered a ban on any new permanent structure or mining activity within these zones. The case also reflects the underlying philosophy that the development and progressive existence of mankind cannot be at the expense of wildlife, and we must march towards harmonious coexistence.

In 2023, a sequence of petitions based on Central Empowered Committee (CEC) reports challenged the expansion/creation of “tiger safaris” and jungle safari-type projects inside or adjacent to tiger reserves (Jim Corbett and other reserves). The CEC and the SC scrutinised NTCA/State actions permitting safaris, captive stocking, and movement of zoo tigers into reserves. Post the scrutiny, Court ruled to curtail tiger safaris within core areas, emphasised adherence to NTCA guidelines, forbade use of healthy wild tigers for display in safaris that endanger wild populations, and recommended strict controls or withdrawal of approvals for safaris/zoos within protected areas reinforcing the idea that tiger reserves core areas must be kept inviolate with only eco-sensitive tourism (Venkatesan, 2012).

The Supreme Court also appointed a Special Investigation Team (SIT) to undertake an inquiry into the Vantara wildlife centre to examine allegations about animal acquisition, welfare, and legal compliance at Vantara (a large wildlife/rescue centre run by Reliance Foundation). The SIT’s report and the Court’s follow-up cleared the centre of alleged illegalities. The immediate action of the Supreme Court (appointment of SIT, review, and public report/clearance) demonstrates the Court’s willingness to investigate high-profile wildlife welfare complaints through expert fact-finding mechanisms. The outcome of SIT ruled that animal acquisition was as per law, finding no violations, but nevertheless, it reflects a preventive legal mechanism at the behest of the Supreme Court (Bhaumik, 2025).

Together, Articles 48A¹⁵ and 51A(g)¹⁶, the WPA, and judicial activism have created a dense web of conservation law. However, the framework is not without limitations. Critics point to bureaucratic hurdles and inconsistent enforcement that blunt the effectiveness of the WPA (Satpathy, 2015). Moreover, while the judiciary has expanded protections, it has also been criticised for overreach and for imposing top-down solutions without sufficient consultation of local communities (Karanth *et al.*, 2012). Despite a robust statutory framework, forest governance in India often oscillates between rule of law and rule by administrative discretion (Bhat and Gahlot, 2025). These tensions foreshadow the discussion in later chapters, where conservation outcomes reveal both the strengths and contradictions of this legal edifice.

Programmatic Wildlife Conservation in India: Flagship Projects and their Trajectory

India's conservation journey is most visibly embodied in its flagship species programmes. These initiatives, such as Project Tiger (1973), Project Elephant (1992), the Crocodile Conservation Project (1975), and Project Snow Leopard (2009), were designed at different historical moments to address ecological crises, strengthen

¹⁵ INDIA CONST. art. 48A

¹⁶ INDIA CONST. art. 51A(g)

institutional capacity, and project India's leadership in global conservation. Together, they illustrate the complex interplay of law, science, and community engagement in practice.

Project Tiger: Building a Conservation Model

Launched in 1973 in response to the precipitous decline of Bengal tigers, Project Tiger became a global benchmark for species conservation (Thapar, 1999; Chengappa, 2005). At its inception, the tiger population had plummeted to about 1,800 individuals. Anchored in the Wildlife (Protection) Act, 1972, the project adopted the *core-buffer strategy*, designating inviolate habitats in core areas and regulated use in buffers (Ministry of Environment and Forests, 2001). From the original nine reserves, the network has expanded to fifty-eight reserves, backed by the creation of the National Tiger Conservation Authority in 2006. Monitoring technologies such as camera traps, GIS mapping, and telemetry have improved the accuracy of population estimates. The outcomes are striking: India reported 2,967 tigers in 2018 and 3,167 in 2022, now hosting nearly 75% of the global wild tiger population (NTCA, 2022).

Habitat conservation, anti-poaching activities, eco-development programs, and scientific monitoring constitute the core initiatives of the project. A complete ban on forest clearing, the constitution of Special Task Forces to prevent poaching, and the involvement of local communities through employment opportunities were introduced to stabilise the tiger population. Nevertheless, these ecological achievements have been accompanied by socio-economic challenges. The displacement of indigenous and forest-dwelling communities from core areas, often with inadequate compensation, has generated human-conservation conflicts and resentment (Down To Earth, 2023). The success of Project Tiger thus underscores both the value of strong legal frameworks and the need for socially just conservation.

Project Elephant: Managing Mobility in Fragmented Landscapes

Launched in 1992, Project Elephant sought to protect India's Asian elephant populations, which constitute over 60% of the global total, by securing habitats and corridors, reducing human–elephant conflict (HEC), and strengthening anti-poaching enforcement (Pandey *et al.*, 2024). Continuing illegal ivory trade, coupled with habitat loss and fragmentation, necessitated targeted conservation interventions. With rapid urbanisation post-1980s 1980s human-elephant conflicts have escalated with greater frequency. These incidents became very rampant in the 1990s in areas of West Bengal, Odisha, and Assam. Responding to a question in the Rajya Sabha, Union Minister of State for Environment Kirti Vardhan Singh said "elephants caused" 587 human deaths in 2019, 471 in 2020, 557 in 2021, 610 in 2022, and 628 in 2023, taking the total count to 2500 in the last five years (Economic Times, 2024). Additionally, around 124 elephants were killed due to conflict-related incidents. Animal rights groups have also identified the practice of captive elephant exploitation as a contributor to population decline. Elephant usage is common and popular in tourism, temples, and circuses under poor conditions. Many times, there was a total neglect and mistreatment of these elephants. This has led to many elephants dying while in captivity (Hari, 2022).

The project has supported thirty-three Elephant Reserves, covering more than 80,000 km², alongside the identification of critical corridors. Despite these gains, infrastructure expansion continues to fragment habitats. Between 2009 and 2024, at least 186 elephants were killed in train collisions (Indian Express, 2025). The use of mobile and digital technologies has emerged as a solution to the continuing issue of human–elephant conflict. Early warning systems and the use of barriers like solar-powered fences and trenches as technological solutions to prevent elephants from entering human settlements were adopted under the project (Pandey *et al.*, 2024). To prevent elephant killings by Railways, a MoEFCC–Railways joint survey was conducted that identified seventy-seven high-priority stretches for mitigation, where underpasses, overpasses, and Intrusion Detection Systems (IDS) are being deployed (Ministry of Environment, Forest and Climate Change, 2024).

Current efforts continue to strengthen the legal and enforcement infrastructure. The Kerala Forest Department, in collaboration with the Wildlife Trust of India (WTI, 2025), has developed the Hostile Activity Watch Kernel (HAWK) system, which is an ultra-modern technology driven wildlife crime intelligence gathering platform. The HAWK system relies upon digital technology and artificial intelligence to consolidate and analyze vast amounts of data. By identifying wildlife crimes by location and the factors that indicate criminal activity, HAWK enables the sending of warning alerts to law enforcement agencies to prevent poaching (Deccan Herald, 2023). Resultantly, 487 kg of ivory was seized through Operation Shikar. The said technology is now adopted nationally with necessary modifications for ensuring maximum outreach.

Likewise, efforts have helped to curb elephant slavery by protecting and rehabilitating injured and captive elephants. Elephant Rescue and Rehabilitation Centers are established, the most famous being the Elephant Conservation and Care Centre in Mathura, which ensures medical and rehabilitative aid to severely abused and exploited elephants. The positives of the project include stabilising of elephant population to 15000 in 2024 a recovery since 1992, though lower than the previous census (Das and Chatterjee, 2023). identification and protection of approximately 150 elephant corridors (Ministry of Environment, Forest and Climate Change, 2025), reduction in poaching activities with all-time low of 29 cases in last three years (Singh, 2022). To address HEC, compensation schemes and elephant route management are executed by radio collar tracking and satellite-based monitoring systems to study elephant movements (Bhaumik, 2025). Ex gratia compensation schemes exist (Ministry of Environment, Forest and Climate Change, 2024) and are implemented, but delays and inadequate coverage often fuel hostility towards conservation. The programme's evolution therefore demonstrates the urgent need for coexistence strategies, including early-warning systems and community engagement, to balance ecological and human welfare.

Crocodile Conservation: Intensive Recovery Efforts

The Crocodile Conservation Project, which was launched in 1975 with support from FAO and UNDP, is one of India's first captive breeding and reintroduction species recovery achievements (Satpathy, 2015). Populations of gharial (*Gavialis gangeticus*), mugger (*Crocodylus palustris*), and saltwater crocodile (*Crocodylus porosus*) declined sharply by the early 1970s due to hunting, river pollution, and habitat destruction.

Recovery efforts were spearheaded by breeding and rearing centres in Bhitarkanika, Kukrail, and the Madras Crocodile Bank, enabling subsequent releases in rivers such as the Chambal and Mahanadi. Legal protection under Schedule I of the Wildlife (Protection) Act¹⁷, and the establishment of sanctuaries such as the National Chambal Sanctuary, were built upon these gains. Captive breeding in controlled environments significantly increased populations, with the Madras Crocodile Bank Trust alone breeding over 5,000 crocodiles to date (Ministry of Environment, Forest and Climate Change, 2023). Reintroduction programs in the Ganges, Chambal, Mahanadi, and Godavari have resettled them into their natural habitat and have reinstated the beginning of natural breeding (Jacobson, 1999). Eco-tourism initiatives were introduced in places like Bhitarkanika and Chambal, generating revenue and creating local employment, boosting conservation and co-existence through community participation (Das and Chatterjee, 2023).

The results have been remarkable: Bhitarkanika now harbours more than 1,700 estuarine crocodiles; gharial numbers, once perilously low, have recovered well above 2,000 nationally; and mugger populations have stabilized. Nevertheless, conflicts with fishing communities, riverine erosion, sand mining, and pollution remain persistent challenges (Mitra and Sharma, 2020).

Project Snow Leopard: Community-Centred Conservation at High Altitudes

Inaugurated in 2009, Project Snow Leopard aimed to conserve the Snow Leopard (*Panthera uncia*), marking a paradigm shift towards participatory conservation, acknowledging that high-altitude ecosystems cannot be effectively managed without local stewardship. Snow leopards inhabit fragile landscapes of Ladakh, Himachal Pradesh, and Uttarakhand, where pastoral livelihoods are closely tied to ecological systems (Kalra *et al.*, 2023). The project was introduced to address habitat loss, poaching, climate change, and human-wildlife conflict that increased tremendously in the early twenty-first century (Ministry of Environment, Forest and Climate Change & Wildlife Institute of India, 2008).

The programme emphasises landscape-level planning, integration with community livelihoods, and India's commitments under the Global Snow Leopard and Ecosystem Protection Programme. Initiatives include ecotourism-based homestays, compensation and insurance schemes for livestock depredation, and training local youth as monitors. Scientific methods such as camera trapping and satellite telemetry have enhanced ecological knowledge (WWF-India, 2022). The Snow Leopard Population Assessment of India (SPAI, 2023) reported an estimated 718 individuals nationally, with 477 in Ladakh. The finding that many occur in human-use landscapes reflects growing tolerance facilitated by community engagement. However, climate change-driven habitat shifts and expanding infrastructure in the trans-Himalaya pose enduring risks (Tripathi *et al.*, 2022).

¹⁷ The Wildlife (Protection) Act, 1972, No. 53 of 1972, India.

Comparative Insights and Emerging Lessons

These four flagship projects together map the changing course of Indian conservation. Project Tiger is based on a statutory protectionist approach, grounded in inviolate reserves and rigorous enforcement under the Wildlife (Protection) Act. Project Elephant, on the other hand, illustrates the challenge of conserving wide-ranging species in fragmented and human-dominated landscapes, where the key challenge is not protection but coexistence as population decline is largely driven by habitat fragmentation, causing human–elephant conflicts, including train collisions. The crocodile recovery programme illustrates the effectiveness of highly targeted action, where species-specific action and captive breeding together generated dramatic population recoveries. Lastly, the launch of the Project Snow Leopard represents a turning point, the coming of age of community-based conservation, and the recognition that long-term sustainability cannot be divorced from local people's stewardship.

Through these diverse cases, three important observations are made. First, rigour is needed in law. Each effort is rooted in the Wildlife (Protection) Act, backed by institutional mechanisms such as the National Tiger Conservation Authority (NTCA), which bestows authority to ensure accountability and hold to account. Second, science enables adaptation. From telemetry in tiger monitoring to systematic Population Assessment of Indian Crocodile (SPAI) surveys, conservation has relied increasingly on data-driven strategies to inform management and respond dynamically to emerging threats. Third, and above all, social licence is necessary. Whether by way of eco-development initiatives, loss-compensation schemes, or ecotourism dividends to communities, conservation success has always rested on the extent of local engagement and acceptance (Banerjee and Aiyadurai, 2020; Kalra *et al.*, 2023).

While the success of such efforts is commendable, they are nevertheless matched by continued challenges. Shortfalls in finance, the fragmentation of institutions of government, increasing human–wildlife conflict, and the escalating pressures from climate change all serve together to emphasize the ephemeral nature of such gains. Conservation in India, as in much of the world, remains conditional and not assured. The preeminent challenge of the future is to scale up participatory and inclusive approaches without losing the statutory protection underpinning ecological rehabilitation. Only through this balance can India guarantee that biodiversity conservation advances in parallel with human welfare, positioning the nation as the champion of reframing conservation for the twenty-first century.

Legal approaches and philosophies surrounding Wildlife Conservation

India has evolved and developed rich debates surrounding biodiversity and wildlife conservation. Some have attained formality through court recognition, and others are part of governance processes and procedures. All attempts to save wildlife can be traced and mapped with various legal principles, philosophies, thought processes, and jurisprudence that reflect legislative and judicial creativity in evolving wildlife conservation law. Conservation strategies require integration of legal provisions with scientific techniques, geographical and zoological understanding, along with regional and national factors that affect the wildlife ecosystem. Therefore, wildlife conservation

jurisprudence demands blended legal approaches to accelerate the quest for conservation. Governmental approaches, procedures, and judicial attempts have accommodated this demand to provide a holistic framework of conservation, which is summarised as under.

Judicially Evolved Doctrines and Principles

The Indian Supreme Court has evolved many doctrines and principles to tackle questions of wildlife and biodiversity conservation. The Court has resorted to a need-based invocation and creation of judicial principles. The Court's approach was oriented towards accommodating human needs and development, which later transitioned to balancing wildlife conservation with human wants and ultimately towards simultaneous co-existence. In *M.C. Mehta v. Kamal Nath* (1997) 1 SCC 388¹⁸, the Court evolved to the Landmark Public Trust Doctrine declaring that the State is not the owner, but the trustee of natural resources, which are meant for public use and enjoyment. All naturally endowed resources, such as forests, rivers, wetlands, wildlife, and air, cannot be privatized or used for commercial gain at the cost of ecological integrity. The doctrine imposed a fiduciary duty on the government to protect forests, sanctuaries, national parks, and biodiversity-rich areas (SCC Times, 2024). In *Vellore Citizens' Welfare Forum v. Union of India* (1996) 5 SCC 647, the Court applied the Precautionary Principle that states that when there is scientific uncertainty regarding potential harm to the environment or biodiversity, the State must err on the side of caution. The absence of complete scientific proof should not be used as a reason to postpone preventive measures. The principle is often applied in cases of infrastructural constructions through protected areas or river-linking projects, where the impact on wildlife corridors is uncertain. The Principle of Sustainable Development was applied by the court in *Vellore Citizens' Welfare Forum v. Union of India* (1996) and reaffirmed in *Narmada Bachao Andolan v. Union of India* (2000), which states that development must balance ecological preservation with economic progress. The principle is used to regulate tourism and infrastructure inside Protected Areas (PAs) (Leung *et al.*, 2018). Likewise, the Polluter Pays Principle was invoked and applied in *Indian Council for Enviro-Legal Action v. Union of India* (1996) 3 SCC 212, which states that the one who damages the environment must bear the cost of restoration and compensate victims. The principle is applied to illegal mining near wildlife sanctuaries and deforestation in tiger corridors (Singh, 2021). The Principle of Intergenerational Equity was invoked in the case of *State of Himachal Pradesh v. Ganesh Wood Products* (1995) 6 SCC 363, emphasizing that present generations hold the Earth's resources in trust for future generations. Degradation of biodiversity today violates the rights of future citizens under Article 21. The principle is used to justify restrictions on hunting, tree felling, and developmental activities within biodiversity-rich areas. The Court evolved the Doctrine of Ecocentrism in *Centre for Environmental Law, WWF v. Union of India* (2013) 8 SCC 234, which recognizes that nature and all living beings have intrinsic value, independent of human benefit. This doctrine has marked the beginning of transitioning from anthropocentric approaches (human-centred) to eco-centric (nature-centred) conservation ethics. The doctrine is used by courts to hold that humans are trustees, not masters of other species, incorporating a moral and legal basis for judgments protecting tigers, elephants, and

¹⁸ M.C. Mehta v. Kamal Nath, (1997) 1 S.C.C. 388 (India).

other species. Likewise, the Doctrine of Non-Regression invoked in *Lafarge Umiam Mining Pvt. Ltd. v. Union of India* (2011) states that once environmental protections are granted, they cannot be rolled back or diluted without compelling justification. The principle prevents rollback of buffer zones, eco-sensitive areas, or dilution of wildlife protection norms.

Contemporary Legal Philosophies and Governance Approaches

The ongoing philosophical discourse on wildlife conservation has seen an intersection and intertwining with other legal principles and approaches. Constitutional Morality and Environmental Justice are increasingly linked to wildlife protection through constitutional values (dignity, fraternity, equality). Environmental justice is now widely recognised as part of social justice. Climate Change Jurisprudence has significantly influenced the Indian legal system. Now, Wildlife law is being tied to India's climate obligations under the Paris Agreement and the CBD. The central focus has increasingly shifted towards Habitat conservation and climate resilience.

Likewise, a new trend has emerged in relation to the principle of custodianship, drawing upon indigenous knowledge systems. This has built a framework recognising tribal and indigenous communities as custodians of biodiversity under the Forest Rights Act, 2006, and similar legislation. The principle promotes the philosophy of peaceful and mutual coexistence between humans and wildlife (Kodiveri, 2025). The discourse of a rights-based approach for animals and wildlife has gained a firm footing. The shift emphasises expansion beyond the “human right to a healthy environment” towards recognizing wildlife's intrinsic rights. Calls for legal personhood of animals are becoming quite common, and many High Courts have conferred limited personhood to animals (*Karnail Singh and others v State of Haryana*, 2019, Punjab and Haryana High Court). Likewise, Digital Constitutionalism & Environmental Governance have been linked to promote the use of technology (drones, AI, satellite mapping) in wildlife regulation, protection, and conservation. The framework is more adaptive, efficient, and accountable.

Challenges and the Way Forward: A Path to Coexistence

While India's flagship conservation initiatives reflect dramatic ecological recoveries, their processes also reveal inherent limitations that render conservation challenging. These limitations are not only ecological but also arise from the intersection of conservation with law, society, and economy. This chapter presents a critical examination of these systemic complexities, aiming to explain how they have influenced, and continue to influence, the effectiveness of India's conservation system. The most pressing problem is the escalation of human-wildlife conflict (HWC). Human settlements, agriculture, and infrastructure expansion encroach upon wildlife habitats, causing increasing instances of crop raiding, livestock depredation, and human (Pandey *et al.*, 2024). Ministry of Environment, Forest, and Climate Change data indicate that between 2019 and 2023, elephants alone killed 2,853 individuals, while retaliatory killings of elephants and tigers remain an issue (Economic Times, 2024).

These conflicts breed anger against conservation agencies, especially when compensation schemes are late or inadequate. Although ex gratia payments have been formalised,

procedural barriers mostly guarantee that the expenses of conservation fall disproportionately to affected communities (Banerjee and Aiyadurai, 2020). The persistence of HWC over time highlights the need for coexistence measures, early-warning systems, predator-proof enclosures, and insurance schemes to complement narrow dependence on exclusionary protection. Despite a robust legislative base, governance bottlenecks often undermine conservation effectiveness. The multiplicity of agencies, such as the NTCA, Project Elephant Division, State Forest Departments, and local administrative bodies, creates overlaps and coordination failures (Satpathy, 2015). For instance, linear infrastructure projects are often approved without full compliance with environmental clearances, leading to habitat fragmentation even in legally protected areas.

Judicial interventions, such as *T.N. Godavarman Thirumulpad v. Union of India*, have attempted to address governance gaps by broadening the definition of "forest" and compelling stricter enforcement (Mitra and Sharma, 2020). However, court-driven conservation often results in reactive, interventionist rather than proactive management, leaving systemic issues unresolved. Institutional fragmentation remains a barrier to cohesive and adequate policy implementation, particularly in balancing conservation with developmental priorities. Conservation in India continues to suffer from chronic underfunding (Chatakonda, Sethy and Maletha, 2025). Flagship programmes like Project Tiger and Project Elephant receive substantial allocations, yet these are insufficient when spread across vast landscapes and numerous reserves (Ministry of Environment and Forests, 2001). Moreover, lesser-known species and ecosystems often remain neglected due to the "charismatic megafauna" (Thapar, 1999).

Global assistance in the form of external funding, i.e., GEF projects and UNDP partnerships, has funded individual projects like the Crocodile Conservation Project. But dependence on external finance is not sustainable. New emerging financing tools like payment for ecosystem services, biodiversity offsets, and community-based ecotourism are being contemplated as potential answers, but need to be investigated in India (Kalra *et al.*, 2023). Climate change introduces a degree of uncertainty to India's conservation. For instance, the Indian Himalayan space, where snow leopards inhabit, is witnessing increased glacial melting and changing habitats, poised to destroy fragile ecosystems (Tripathi *et al.*, 2022). In the same way, the shifting patterns of precipitation and increased temperature are changing prey species distribution, thus impacting predator populations such as tigers and leopards. These changes necessitate adaptive management plans that transcend fixed reserve boundaries. Landscape-scale strategies, ecological corridors, and climate-resilient conservation planning are being framed as needs more and more. But it is unequal, usually derailed by fixed bureaucratic approaches and a lack of integration of climate science in policy (WWF-India, 2022).

The cumulative lesson from these challenges is that conservation cannot succeed through ecological science or legal protection alone; it requires adaptive governance that integrates social, economic, and ecological dimensions. Community-based models under the Forest Rights Act (2006), including Joint Forest Management and ecotourism partnerships, illustrate promising alternatives (Kalra *et al.*, 2023). These models provide not only alternative livelihoods but also foster local stewardship, aligning human welfare with biodiversity outcomes. Technological innovations, such as AI-based intrusion detection systems for elephants or camera-trap-based monitoring of tigers and snow

leopards, further expand the toolkit for adaptive conservation (Ministry of Environment, Forest and Climate Change, 2024). However, technology must complement, not replace, community engagement. As the evidence shows, conservation outcomes are strongest where law, science, and local participation converge in mutually reinforcing ways.

The persistence of human–wildlife conflict, institutional fragmentation, inadequate funding, and climate uncertainty demonstrates that India's conservation successes are fragile and contingent. To secure long-term gains, policy must embrace inclusivity, flexibility, and innovation. The future of Indian conservation will depend less on replicating past protectionist models and more on creating governance frameworks that recognise communities as co-stewards, integrate climate resilience, and mobilise sustainable financing. In doing so, India can consolidate its global leadership in biodiversity conservation while ensuring that the costs and benefits of conservation are equitably shared.

From Mandate to Mutual Contract: Reframing India's Conservation Paradigm via Community Rights, Climate Adaptation, and Pluralistic Governance

The findings of preceding chapters reveal that India's conservation journey has been fraught with structural challenges, from human–wildlife conflict to climate-induced vulnerabilities. Resultantly, we have moved from protectionism to coexistence (Roy and Sengupta, 2025). Consequently, conservation thinking has begun to move from strict protectionism towards coexistence. Conservation in India has historically relied on the “fortress model”, legally demarcated protected areas where human activity is minimised. This model has been effective in securing flagship species such as the Bengal tiger (*Panthera tigris tigris*), whose populations rose from 1,411 in 2006 to 3,167 in 2022 (NTCA, 2022). Similarly, elephant populations have stabilised under Project Elephant (Pandey *et al.*, 2024). However, the protectionist approach has generated socio-economic tensions, particularly among indigenous and forest-dependent communities displaced by inviolate core zones (Satpathy, 2015). International experience suggests that fortress conservation alone cannot ensure long-term sustainability (Krithi *et al.*, 2008). A coexistence model, one that integrates conservation with livelihoods, rights, and development, offers a more pragmatic pathway. The Forest Rights Act, 2006, provides a legislative base for such integration, though its uneven implementation reveals the need for deeper institutional reform.

Global conservation literature increasingly recognises that local communities are not obstacles but indispensable allies (Kalra *et al.*, 2023). Case studies from Ladakh's snow leopard programmes, where compensation schemes and ecotourism initiatives have reduced retaliatory killings, exemplify the transformative power of participatory approaches (WWF-India, 2022). In India, Joint Forest Management (JFM) and community reserves have created new governance models, yet their potential remains underutilised due to weak financial support and a lack of legal empowerment.

Climate change is not a future risk but a present reality, altering habitats, shifting species ranges, and undermining traditional conservation baselines (Tripathi *et al.*, 2022). The Sundarbans' tiger habitats, threatened by sea-level rise, and the Himalayan rangelands, destabilised by glacial retreat, illustrate the urgency of climate-smart strategies. India's

national commitments under the Convention on Biological Diversity (CBD) and its pledge to achieve the Sustainable Development Goals (SDGs) by 2030 necessitate the integration of biodiversity conservation into climate change adaptation planning (IUCN, 2022). A persistent bottleneck for conservation is inadequate funding. While flagship programmes receive attention, lesser-known species and habitats remain marginalised (Thapar, 1999). Traditional funding, dependent on central allocations, is insufficient for the scale of India's conservation challenge. Innovative financing tools such as biodiversity offsets, carbon credit schemes, and payment for ecosystem services (PES) could create sustainable revenue streams (Suriaprakash, 2025). Ecotourism, if carefully regulated, offers another pathway, though it must avoid the pitfalls of commodification (Kalra *et al.*, 2023). International financing mechanisms such as GEF and Green Climate Fund can also be leveraged to mainstream conservation into broader climate finance frameworks.

Blending modern scientific approaches with traditional ecological knowledge can foster hybrid conservation models that are both culturally legitimate and ecologically effective. The policy challenge lies in institutionalising such integrative approaches within India's federal governance framework.

Conclusion

India's conservation experience is one of both inspiring success and unresolved tensions. The recovery of flagship species like tigers and elephants is a testament to the strength of good legislation, institutional ability, and political will. But the very success of protectionist policies has revealed their limitations, including the displacement of communities, rising conflicts, and ecosystems strained under the burden of development and climate change. These tensions reveal a harsh reality: conservation in the twenty-first century cannot be one of fences, legislation, and state-protection. It must become a broad ethic of coexistence that puts ecology, equity, and resilience on an equal footing. The way forward is to redefine conservation as a mutual social contract. This involves breaking away from paradigms of exclusion to one of coexistence as an essential value. Forest and indigenous peoples, traditionally seen as barriers, need to be recognized instead as partners and rights-holders. Legal recognition of their guardianship, coupled with economic benefits from ecotourism, forest-based sustainable businesses, and benefit-sharing schemes, can make them the guardians of choice for biodiversity.

Meanwhile, climate realities necessitate a shift from patchwork conservation to landscape-level planning. Mangrove buffers, wildlife corridors, and alpine habitats must be conserved not as isolated patches, but as systems that are connected to the landscape in ways that can accommodate sea-level rise, change in rainfall regimes, and shifting species ranges. Conservation policy must then incorporate climate adaptation into its core, so that ecological resilience is no longer dissociated from development planning. Funding this shift is also of the greatest concern. Relying on government budgets no longer suffices to cover the extent of the challenge. New tools such as biodiversity offsets, carbon credits, green bonds, and community-conserved funds provide new means to raise funds while making them accountable, marking the way to the future. With open management, these financial tools can bypass government reliance and usher in corporate and international funding partnerships.

Finally, India's conservation destiny will depend on its potential for knowledge pluralism. New technologies like AI-based monitoring, satellite imaging, and human-wildlife conflict early warning systems for human-wildlife conflict hold immense promise. However, their effectiveness will be maximised only when integrated with the experiential knowledge, cultural practices, and ecological understanding of local communities. Such integration offers the possibility of governance systems that are technologically advanced yet socially grounded. If these pathways are institutionalised, India can transition from reactive crisis management to proactive, forward-looking environmental governance. The outcome would not only be strengthened biodiversity conservation but also the establishment of a global precedent demonstrating that conservation and development need not be mutually exclusive. Instead, when reimagined through inclusivity, resilience, and innovation, they can become complementary pillars of a sustainable future.

References

- Agrawal, N. and Pant, I. (2011). Law, judiciary and environmental governance: Rethinking the evolution of forest laws in India. *International Journal of Environmental, Cultural, Economic and Social Sustainability*, 7(2): 27–37. DOI: <https://doi.org/10.18848/1832-2077/cgp/v07i02/59448>.
- Banerjee, S. and Aiyadurai, A. (2020). Factors influencing local community participation in wildlife conservation projects in Northeast India. *OSF Preprints*. DOI: <https://doi.org/10.31235/osf.io/sy98v>.
- Bhat, S. and Gahlot, V. (2025). Forest conservation in India: Environmental rule of law or by law? *Jindal Global Law Review*, 16(1): 19–50. DOI: <https://doi.org/10.1007/s41020-025-00258-2>.
- Bhaumik, A. (2025). Supreme Court clears Vantara wildlife centre after SIT probe. *The Hindu*, 15 September 2025. Available online at: <https://www.thehindu.com/news/national/supreme-court-appointed-sit-gives-clean-chit-to-vantara/article70051889.ece> [accessed on 25 November 2025].
- Chatakonda, M.K., Sethy, J. and Maletha, A. (2025). Forests for inclusive and sustainable economic growth. In: *Forests for Inclusive and Sustainable Economic Growth* (pp. 321–328). Elsevier. DOI: <https://doi.org/10.1016/B978-0-443-31406-3.00024-2>.
- Das, M. and Chatterjee, B. (2023). Ecotourism in Bhitarkanika Wildlife Sanctuary, India: Assessment of participation, economic benefits and conservation goals. *Journal of Ecotourism*, 23(4). DOI: <https://doi.org/10.1080/14724049.2023.2282955>.
- Deccan Herald (2023). Conservation in India: Triumphs and trials. *Deccan Herald*, 4 August 2023. Available online at: <https://www.deccanherald.com/environment/wildlife/conservation-in-india-triumphs-and-trials-3752045> [accessed on 22 October 2025].
- Deka, D. (2022). Analysis of Articles 48A & 51A(g) of the Constitution of India. *International Journal of Multidisciplinary Research*, 4(6). DOI: <https://doi.org/10.36948/ijfmr.2022.v04i06.1037>.
- Dev, S. (2024). Government programs and policies towards green environment. In: *Disaster Management and Environmental Sustainability* (pp. 145–153). Wiley. DOI: <https://doi.org/10.1002/9781394167463.ch12>.

- Down To Earth (2023). India lost 204 tigers in 2023, most of them in Maharashtra: WPSI. *Down To Earth*, 26 December 2023. Available online at: <https://www.downtoearth.org.in/wildlife-biodiversity/india-lost-204-tigers-in-2023-most-of-them-in-maharashtra-wpsi-93564> [accessed on 21 November 2025].
- Drishti IAS (2025). Wildlife Protection (Amendment) Act, 2022. Available online at: <https://www.drishtiias.com/daily-updates/daily-news-analysis/wildlife-protection-amendment-act-2022> [accessed on 21 November 2025].
- Economic Times (2024). Over 2,500 people died in five years in human-elephant conflicts: Govt data. *The Economic Times*, 26 July. Available online at: <https://economictimes.indiatimes.com/news/india/over-2500-people-died-in-five-years-in-human-elephant-conflicts-govt-data/articleshow/112036882.cms> [accessed on 25 November 2025].
- Guha, R. (2007). *India after Gandhi: The history of the world's largest democracy*. Macmillan.
- Hari, K. (2022). Talking elephants into slavery. *The India Forum*, 1 July. Available online at: <https://www.theindiaforum.in/article/talking-elephants-slavery> [accessed on 25 November 2025].
- IUCN (2022). Species and climate change. IUCN, Gland, Switzerland. Available online at: <https://www.iucn.org/resources/issues-brief/species-and-climate-change> [accessed on 25 November 2025].
- Kalra, S., Poonia, A., Sharma, R., Kaur, R., Sharma, P., Kumar, A. and Gulia, N. (2023). Wildlife conservation through local community engagement in India. *Uttar Pradesh Journal of Zoology*, 44(2): 13–24. DOI: <https://doi.org/10.56557/upjoz/2023/v44i23398>.
- Karanth, K.K., Gopalaswamy, A.M., DeFries, R. and Ballal, N. (2012). Assessing patterns of human–wildlife conflicts and compensation around a central Indian protected area. *PLOS ONE*, 7(10): e50433. DOI: <https://doi.org/10.1371/journal.pone.0050433>.
- Karanth, K.K., Kramer, R.A., Qian, S. and Christensen, N.L. (2008). Examining conservation attitudes, perspectives, and challenges in India. *Biological Conservation*, 141(9): 2357–2367. DOI: <https://doi.org/10.1016/j.biocon.2008.06.027>.
- Khandelwal, V. (2005). Tiger conservation in India – Project Tiger. *SSRN Electronic Journal*. DOI: <https://doi.org/10.2139/ssrn.773505>.
- Kodiveri, A. (2025). Colonial legacies and decolonial futures: Environmental law and indigenous resistance in India. In: *A Research Agenda for Environmental Law* (pp. 261–273). Edward Elgar Publishing. DOI: <https://doi.org/10.4337/9781035324408.00027>.
- Leung, Y.F., Spenceley, A., Hvenegaard, G. and Buckley, R. (2018). Tourism and visitor management in protected areas: Guidelines for sustainability. IUCN, Switzerland. DOI: <https://doi.org/10.2305/IUCN.CH.2018.PAG.27.en>.
- Ministry of Environment and Forests (2001). Project Tiger: Status report. Government of India. Available online at: <https://portals.iucn.org/library/node/28229> [accessed on 25 November 2025].
- Ministry of Environment, Forest and Climate Change (2024). Shri Bhupender Yadav releases the status report of snow leopards in India. Press Information Bureau (PIB), 30 January 2024. Available online at:

- <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2000545> [accessed on 25 November 2025].
- Ministry of Environment, Forest and Climate Change (2025). New Tiger Reserves to boost conservation in India. Press Information Bureau, 9 February 2025. Available online at: <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2000545®=3&lang=2> [accessed on 25 November 2025].
- Ministry of Environment, Forest and Climate Change and Wildlife Institute of India (2008). Project Snow Leopard. Government of India. Available online at: <https://moef.gov.in/uploads/2018/03/Project-Snow-Leopard-2008.pdf> [accessed on 25 November 2025].
- Mitra, P.P. and Sharma, P. (2020). Role of the Supreme Court in developing ‘animal rights’ jurisprudence in India. *Journal of the Indian Law Institute*, 62(3): 239–262.
- NTCA (National Tiger Conservation Authority) (2022). All India tiger estimation report. Ministry of Environment, Forest and Climate Change, Government of India.
- Pandey, J.N. (2007). *Constitutional law of India*, 44th edn. Central Law Agency, New Delhi.
- Pandey, R.K., Yadav, S.P., Selvan, K.M., Natarajan, L. and Nigam, P. (2024). Elephant conservation in India: Striking a balance between coexistence and conflicts. *Integrative Conservation*, 3: 1–11. DOI: <https://doi.org/10.1002/inc3.38>.
- Pandey, S. (2022). The Supreme Court and intergenerational equity in environment matters. *Journal of Legal Studies and Research*, 8(2).
- Poonia, A., Ghanghas, A., Sharma, R., Jangra, M. and Sindhu, V. (2022). Trends in CITES-listed birds’ trade in South Asian countries in view of evolution of Indian laws during last four decades. *International Journal of Ecological Economics and Statistics*, 43(1): 96–115.
- Roy, A. and Sengupta, A. (2025). Assessing the socio-psychological implications of Community Forest Resource (CFR) rights for forest-dwelling communities in Central India. *Trees, Forests and People*, 21: 100938. DOI: <https://doi.org/10.1016/j.tfp.2025.100938>.
- Satpathy, B. (2015). Where are tribals in their development? A century of Indian forest legislations. *International Journal of Rural Management*, 11(1): 60–74.
- SCC Times (2024). Supreme Court lays guidelines for effective functioning of environmental authorities. *SCCOnline*, 1 February. Available online at: <https://www.scconline.com/blog/post/2024/02/01/sc-lays-guidelines-for-effective-functioning-of-environmental-authorities-legal-news/> [accessed on 25 November 2025].
- Seidensticker, J., Christie, S. and Jackson, P. (eds.) (1999). *Riding the tiger: Tiger conservation in human-dominated landscapes*. Cambridge: Cambridge University Press.
- Singh, R.B. (2021). Fundamental duties and environmental protection under the Indian Constitution. *Journal of Constitutional Law Studies*, 12(2): 145–160.
- Singh, S.S. (2022). Overview of illegal wildlife trade: Constitutional safeguard by judiciary. JusCorpus Legal Research Services, 28 October 2022. Available online at: <https://www.juscorpus.com/overview-of-illegal-wildlife-trade-constitutional-safeguard-by-judiciary/> [accessed on 25 November 2025].

- Suriaprakash, R.G. (2025). Missing the forest for the trees: Implications of compensatory afforestation in India through an ecological and social lens. *Jindal Global Law Review*, 16(1): 281–309. DOI: <https://doi.org/10.1007/s41020-025-00271-5>.
- Thapar, V. (1999). The tragedy of the Indian tiger: Starting from scratch. In: Seidensticker, J., Christie, S. and Jackson, P. (eds.), *Riding the tiger: Tiger conservation in human-dominated landscapes* (pp. 296–306). Cambridge: Cambridge University Press.
- Tripathi, A.K., Pandey, P.C., Sharma, J.K., Triantakoustantis, D. and Srivastava, P.K. (2022). Climate change and its impact on the forests of the Indian Himalayan region: A review. In: Rani, S. and Kumar, R. (eds.), *Climate change* (pp. 115–135). London: Springer.
- Venkatesan, J. (2012). Supreme Court bans tourism in core areas of tiger reserves. *The Hindu*, 24 July 2012. Available online at: <https://www.thehindu.com/sci-tech/energy-and-environment/supreme-court-bans-tourism-in-core-areas-of-tiger-reserves/article3678263.ece> [accessed on 25 November 2025].
- Wildlife Trust of India (2025). Empowered communities – The drivers of conservation initiatives. Available online at: <https://www.wti.org.in/feature/empowered-communities-the-drivers-of-conservation-initiatives/> [accessed on 25 November 2025].
- WWF-India (2022). Community-based conservation initiatives in Ladakh. WWF-India, New Delhi.

Authors' Declarations and Essential Ethical Compliances

Authors' Contributions (in accordance with ICMJE criteria for authorship)

<i>Contribution</i>	<i>Author 1</i>	<i>Author 2</i>	<i>Author 3</i>
Conceived and designed the research or analysis	Yes	Yes	No
Collected the data	Yes	Yes	No
Contributed to data analysis & interpretation	Yes	Yes	No
Wrote the article/paper	No	Yes	Yes
Critical revision of the article/paper	No	No	Yes
Editing of the article/paper	No	Yes	Yes
Supervision	Yes	No	No
Project Administration	Yes	No	No
Funding Acquisition	No	No	No
Overall Contribution Proportion (%)	40	40	20

Funding

No financial support was received for the research and writing of this article.

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