

Saving Wildlife in a Changing India

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How can India balance economic ambitions, ecological integrity, and social justice? This paper seeks to unpack systemic threats to wildlife conservation, including weakened laws, a governance favouring economics over ecology, and a growing disconnect between policy and on-ground action. It critiques exclusionary policies and a growing commodification of nature, advocating for a pluriverse of inclusive, landscape-scale conservation approaches that integrate ecological resilience with community leadership.

In late 2022, the lifeless body of a Great Indian Bustard was discovered in Degrai Mata Oran—a traditionally protected sacred natural site—near Devikot, Jaisalmer, beneath a high-voltage power line in Rajasthan's Thar desert (Ray 2022). This critically endangered bird, of which fewer than 150 remain, has become a stark emblem of India's conservation crisis. Once spread across the subcontinent and sharing space with grazers and their herds, the bustard's habitat has now been invaded by solar farms and wind turbines, and power lines endanger its life. It is now green versus green, a disturbing paradox that, in India's rush to embrace renewable energy solutions, is helping extinguish one of our planet's most endangered creatures.

This tragic reality epitomises one facet of a deepening crisis in Indian wildlife conservation. Fifty-two years after the landmark Wild Life (Protection) Act (WLPA), 1972 was passed, the legislation has expanded from its original slim 40 pages to over 200 pages through numerous amendments. Yet this legislative bloat has not necessarily translated into stronger protection or safer prospects for the bustard. It is worth examining—as this paper hopes to do—why, despite 52 years of receiving the highest legal protection—the Schedule 1 status—the bird is even more on the brink today than ever.

The most serious challenges to wildlife conservation in India today are systemic. Parliamentary data reveals one facet of the constraints facing wildlife conservation—the allocation even for the flagship Project Tiger has declined from ₹283 crore in 2019–20 to ₹188 crore in 2022–23 (Ministry of Environment, Forest and Climate Change 2023). These resource limitations come precisely when expanding animal populations and shrinking natural habitats demand more investment in conflict mitigation and habitat protection.

India's tiger population has grown from 1,411 in 2006 to 3,682 in 2022 (Ministry of Environment, Forest and Climate Change 2024a). However, this significant achievement has created new challenges that our institutional framework struggles to address. Maharashtra officially recorded 170 human deaths in tiger encounters between 2018 and 2022, highlighting the growing human-wildlife interface challenges in the state's Vidarbha region (PTI/TOI 2023). The situation with elephants reveals similar complexities. Official data shows that between 2019 and 2024, 2,829 human fatalities were recorded across India, while 528 elephants died from various unnatural causes, including electrocution, train accidents, and poaching (Ministry of Environment, Forest and Climate Change 2024b). In parts of Chhattisgarh, where elephants historically were not present, government records now show

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regular movement of herds through villages and farmlands. Similarly, Bandhavgarh, Madhya Pradesh (MP) has recently been colonised by a population of elephants, which were not known to occur there historically (Mishra 2020).

India stands at a crossroads where its wildlife conservation and environmental protection, which are impressively strong on paper, are operationally sidelined increasingly in favour of rapid economic growth. Legislative amendments in recent years have consistently diluted protection, favouring industrial and infrastructure expansion over environmental integrity. Once an essential part of India's environmental policy, conservation has been pushed to the periphery, and traditional top-down conservation approaches are proving inadequate for the complex realities of a diverse and densely populated country. A new approach is essential: one that weaves conservation into the fabric of social, economic, and cultural practices. However, to understand where such an approach might lead us, we must first examine the philosophical foundations and historical trajectory of wildlife conservation's evolving legislative frameworks in India.

Faltering Legal Frameworks

The WLPA emerged during a pivotal moment when an unusually pro-conservation central government legislated on wildlife—constitutionally a state subject—to protect India's rapidly diminishing wildlife. While the act's conservation impulse was admirable, it entrusted wildlife protection to the forest department, a colonial institution with a century-long history of annexing community forests, exploiting them for timber revenue, and viewing forest-dwelling communities merely as labour for forestry rather than as custodians of ecological knowledge. The act thereby normalised a narrow view of conservation as primarily law enforcement rather than recognising it as a nuanced endeavour at the interface of nature and society, shaped by complex ecological and cultural relationships. It crystallised two enduring assumptions: that wildlife protection necessarily required human exclusion and that state coercion was the primary tool for achieving this. As India's developmental priorities shifted from welfare to aggregate economic growth, the state has increasingly found itself in the middle of an impossible balancing act—positioning itself simultaneously as a protector of nature, defender of forest communities, and facilitator of industrial and infrastructure expansion into forests and wildlife habitats.

Over time, these contradictions have only deepened. Despite expanding from 40 to 200-plus pages through amendments, the act's core exclusionary philosophy persists, and it reads almost as if, even in 2023, as in 1972, ecology and conservation science are non-existent. What has changed dramatically is the state's commitment to its multiple roles—the imperative of industrial and infrastructure growth has steadily overshadowed environmental protection and community rights.

This shift has accelerated remarkably since 2019, with every major environmental law facing amendment in a tsunami of legislative changes. Beyond specific provisions, these changes also reveal a fundamental reimagining of environmental governance.

First, environmental violations have been decriminalised, replacing jail terms with monetary penalties—effectively switching from “you will face prison time” to “you will pay a fine.” Second, judicial oversight has given way to bureaucratic control through “adjudicating officers”—government officials granted quasi-judicial powers. Third and most significantly, environmental protection has shifted from preventing damage to merely pricing it (Pandey and Sinha 2022; Ghosh Review of Environment and Development 2025).

These shifts reflect a broader reimagining of the state's relationship with nature, most evident in two crucial pieces of legislation. The Wild Life (Protection) Amendment Act, 2022, while ostensibly modernising alignment with international trade regulations (CITES), introduced provisions for commercial trade in live elephants. Meanwhile, the Forest Conservation Act, rechristened as the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 2023, fundamentally alters the impulse of the original act in how forests are defined and protected. Through careful redefinition of forestland and streamlined clearance processes, vast ecologically-sensitive areas have been opened for non-forest use. It goes even further, creating sweeping regulatory exemptions for “strategic” projects near international borders, among others, besides opening the forest domain to private corporate businesses.

Key regulatory bodies like the National Board for Wildlife, conceived initially as regulators upholding the interests of wildlife, increasingly function as facilitators of development projects (Dutta 2021). The Great Nicobar development project exemplifies this new normal—despite threatening 130 square kilometres of pristine rainforest, endemic fauna, and critical turtle nesting sites, it received wildlife clearance in a heartbeat.

Most troubling is the increasing monetisation of nature through tradable instruments like carbon credits and private compensatory afforestation. Environmental violations have become mere financial transactions, while the PARIVESH portal, meant to ensure transparency in environmental, forest and wildlife clearances, is now in complete radio-silence as all publicly available information on projects requiring clearances is now withdrawn.

These changes mark a fundamental shift from viewing nature as something to be protected to seeing it as a resource to be managed and monetised. While the original WLPA failed to recognise scientific knowledge or traditional wisdom, today's amended environmental laws sideline evidence-based conservation and community rights. The state, meanwhile, has transformed from an imperfect referee between development and conservation to an active agent of industrial and infrastructure expansion at the cost of wildlife and vulnerable communities.

Beyond Park Boundaries

India's legally protected areas, covering roughly 5% of the country, are inadequate for supporting its legally-protected species, whose habitats span significantly larger regions. The success of species-centric projects like Project Tiger has led to recoveries in wildlife populations in certain regions without a clear vision of how dispersing animals navigate habitats that

are unprotected, fragmented, and disconnected. Hence, elephants, leopards, and even tigers—all legally protected—increasingly find themselves in human-dominated production landscapes beyond the boundaries of protected areas. This juxtaposition results in a range of awkward situations that have festered for decades because removing legally protected species, even from private lands, is not simple. In contrast, their continued presence in these areas leads to an uptick in human-wildlife conflicts.

In East-Central India, elephants have begun migrating into regions of Maharashtra, MP, Chhattisgarh, and Jharkhand—territories previously uninhabited by them. This forced migration, driven by habitat fragmentation and deforestation in source populations, places these individuals in direct conflict with rural communities in the areas into which they are dispersing (Mishra 2020). Overall, reports of elephants entering crop fields, damaging homes, and, in some tragic cases, causing human fatalities are increasingly common. The reactive solutions—compensation payments, electric fencing, and animal translocations—address symptoms but do little to remedy the underlying causes.

The current conservation model needs to integrate landscape-level conservation beyond protected-area boundaries. Effective conservation in India must accommodate the habitat needs of wide-ranging species by restoring ecological connectivity and integrating conservation into land-use planning beyond designated sanctuaries and national parks. Genuinely collaborative efforts with local constituents, as seen in the Valparai region of Tamil Nadu, demonstrate the potential for sustainable, inclusive approaches to managing the presence and movement of large, potentially dangerous non-human species on private lands in a way that mitigates conflicts and protects both people and wildlife (Kedlaya 2022).

Economy Eats Ecology

Today, India's ambition to become a \$5 trillion dollar economy routinely collides with its environmental obligations. As the government revs up the engines of India's growth machine, with its insatiable appetite for land, water, and other natural resources, it leaves a trail of erased ecologies, fragmented landscapes, disrupted ecological relationships, polluted lands and waters, and innumerable human and non-human refugees in its wake. Without exception, every highway, railway, coal mine, hydroelectric dam, power line, or canal involves non-trivial ecological and social costs, even as it generates its touted benefits. The pains and the gains of these development choices are felt in different parts of our ecology and society, and in different ways.

Consider the Hubballi–Ankola railway project in Karnataka. The original project, aimed at improving connectivity in the Western Ghats, threatened to fragment one of the world's most biodiverse regions by felling over 2,00,000 trees. Despite opposition from environmentalists, initial rejection by the state's forest department, and ongoing litigations, political pressure has continued to sustain the project (Athradly 2024). The case exemplifies a troubling trend in Indian

polymaking: dismissing environmental concerns as obstacles to economic growth.

Another example is the Hasdeo Arand forest in Chhattisgarh, an erstwhile “no-go” zone for mining due to its rich biodiversity. Recent changes now allow coal mining in this vital forest, displacing Adivasi communities and undermining one of the region's last contiguous habitats for elephants and other native wildlife, pitting them against each other (Derhgawen and Mohan 2024). The government's approach to development thus ignores the irreplaceable value of natural ecosystems, instead viewing them as resources ripe for extraction.

Take the Ken–Betwa river linking project's impact on the Panna Tiger Reserve. Environmental impact assessment documents confirm that the project will submerge 6,017 hectares of forestland, affecting habitats of the endangered tiger, gharial, and vultures. This represents a loss of forest cover, doubly marginalises Adivasi communities, and threatens a successful tiger conservation story where their population was rebuilt at great human and financial cost from zero in 2009 to some 79 tigers today (David 2024).

The crisis extends beyond terrestrial ecosystems. Our rivers, wetlands, and coastal waters—traditionally overlooked in conservation discourse—face unprecedented threats. Although the Gangetic River Dolphin, our national aquatic animal, faces a significant historical decline in its population (Qureshi et al 2021), the inland waterways project advances full steam even as ecological assessments apprehend significant impacts on dolphin habitats through increased dredging and river traffic (Aggarwal et al 2020).

Along India's coastline, a similar story unfolds. Analysis of satellite data between 1990 and 2018 by the National Centre for Coastal Research reveals that over a third of India's coastline has eroded, with serious ecological and livelihood consequences (PIB 2023). Yet, a large part of India's focus has been on developing ports, logistics, and shipping through the Sagarmala project, diluting environmental regulations, such as the Coastal Regulation Zone (Aggarwal 2019).

Nevertheless, the rhetoric of economic growth has only grown louder, pushing environmental and social concerns to the background. Development projects often proceed with little regard for environmental impacts, and consultation processes with affected communities remain minimal. This imbalance between growth and preservation calls for re-evaluating the country's developmental vision. Development in a country with India's unique biodiversity cannot simply bulldoze over natural habitats; rather, it must find ways to integrate ecological considerations into its plans for progress.

Nature for Sale

A neoliberal approach to conservation is steadily commodifying nature, treating species and ecosystems as financial assets that need to pay for themselves. India's wildlife tourism sector has seen an unprecedented expansion, transforming from a nature appreciation activity into a full-blown commercial business producing profits for faraway capital. While the Supreme Court previously mandated core areas of tiger

reserves to remain inviolate, recent policy shifts have enabled extensive tourism infrastructure even in sensitive zones. Despite scientific evidence of reef fragility, the Lakshadweep administration's push for luxury tourism in coral atolls exemplifies this trend (Nandi and Jain 2024). The tourism rush has created a perverse dynamic where revenue generation often trumps ecological sensitivity—visitor facilities are expanding in and around Ranthambore and Corbett despite exceeding their carrying capacity. At the same time, in key parks like Kaziranga, Adivasis and local communities face displacement or restricted access to their ancestral lands, as these lands become available to high-end tourism businesses (Chakravartty 2024). While generating revenue, this market-driven conservation model risks commodifying nature and prioritising elite recreational access over ecological integrity and environmental justice.

The concept of compensatory afforestation in India, epitomised by the Compensatory Afforestation Fund Management and Planning Authority (CAMPA), represents a deeply flawed attempt to offset irreplaceable ecological losses through simplistic tree-planting exercises. The recent Great Nicobar-Haryana case perfectly illustrates this absurdity—ancient tropical rainforests hosting complex ecosystems and endemic species are being sacrificed for development. At the same time, the promised “compensation” involves theoretical plantations on Aravalli lands that have already been diverted for mining (Pati 2024). This bureaucratic sleight-of-hand demonstrates how CAMPA enables a form of “paper conservation” where biodiversity-rich landscapes can be destroyed based on mathematical equations of tree counts, land areas and net present values, completely ignoring ecological uniqueness, ecosystem services, and centuries of evolution. Moreover, the scheme disregards the profound cultural and livelihood relationships between forests and local communities, reducing rich socio-ecological systems to mere numbers in a ledger. Such mechanisms essentially facilitate “green-washed” destruction while creating an illusion of environmental responsibility.

In some cases, the concept of “offsetting,” especially at large regional or global scales, has led to increased deforestation as companies take advantage of these policies. This approach does little to address the actual costs of ecosystem loss and often shifts the burden onto rural communities (Lahiri and Figuera Martínez 2024). The economy must be reimagined as a subset of ecology, not vice versa. Conservation policies should reflect this understanding, prioritising long-term ecological health over short-term economic gain.

India's forest reporting exemplifies a dangerous reductionism where ecological complexity is flattened into fungible numbers. By equating urban avenue trees and commercial plantations with ancient natural forests in their definition of “forest cover,” the India State of Forest Reports perpetuate a statistical deception that masks the irreversible loss of biodiversity-rich ecosystems (Madhusudan 2022). This accounting trick serves a market logic that reduces living forests to mere carbon stocks and timber volumes.

Living with Wildlife

The rich tapestry of human–wildlife interactions, woven through centuries of shared histories and embedded deeply in human and non-human cultures, risks being reduced to simplistic binaries of “conflict” or “coexistence.” This reductionism ignores how sentient and intelligent species like elephants, primates, and big cats rapidly evolve novel behavioural strategies to navigate increasing proximity with humans in transformed landscapes (Sinha and Mukhopadhyay 2013; Srinivasiah et al 2019).

These transformations are primarily driven by destructive infrastructure projects—mining operations, dam construction, and highway expansions fragmenting critical habitats. We are essentially engineering conflict by incentivising ecological regime shifts, whether through large infrastructure projects that destroy and fragment existing habitats or agricultural policies that encourage groundwater exploitation and year-round cropping, inadvertently creating vast tracts of novel habitats for adaptable but potentially-dangerous wildlife.

Current approaches to human–wildlife interactions suffer from multiple blind spots. They reduce complex interactions to material losses, overlooking the profound psychological impacts on human and non-human communities that share increasingly contested spaces. The negative and positive relational dimensions that manifest in fear, reverence, tolerance, or antagonism, are then largely ignored in favour of simplistic monetary compensation mechanisms. Moreover, the technocratic focus on reactive measures, like electric fencing, animal translocation, and monetary compensation fails to address root causes or build sustainable solutions.

The path forward lies in fostering deeper relational work between wildlife managers and local communities. Instead of the current paradigm that treats conflict as a law-and-order issue focused on logistics and protocol, we need collaborative approaches that proactively create avenues for dialogue and shared understanding. Success stories, like community-based conservation initiatives, demonstrate how empowering local communities while respecting wildlife behaviour and ecological needs can create pathways for meaningful coexistence. This requires moving beyond simplistic technical fixes and purely monetary responses to embrace the complex socio-ecological dimensions of human–wildlife relationships.

Castaways of Conservation

India's wildlife conservation establishment continues to perpetuate a colonial-era prejudice against Adivasis, viewing them as obstacles rather than allies in conservation. This antiquated approach is starkly evident in the National Tiger Conservation Authority's recent push to relocate 64,801 families from nearly 591 villages, demonstrating how deeply entrenched the “fortress conservation” mindset remains within India's wildlife bureaucracy (Vats 2024).

This exclusionary approach ignores compelling evidence that Adivasi communities, with their centuries-old relationship with forest landscapes, often serve as robust guardians of biodiversity. The Soliga community's ecological knowledge

and management perspectives continue to be overlooked in Karnataka's Biligiri Rangaswamy Temple Tiger Reserve, despite the community having full community rights over the same forests, including those of biodiversity management and conservation. Similarly, the Baiga in MP have historically maintained complex forest mosaics that support both wildlife and sustainable livelihoods—yet face continual threats of displacement from their ancestral lands.

The real threat to both Adivasis and wildlife is less from their overlap and more from destructive commercial projects that fragment and destroy critical habitats. In this context, empowering Adivasi communities through genuine implementation of the Forest Rights Act could create powerful allies in resistance against ecologically devastating infrastructure and mining projects. The intimate Adivasi understanding of local ecosystems, developed over generations, and their healthy respect for other species, even when in conflict, provides invaluable insights for conservation—from understanding wildlife behaviour patterns to maintaining crucial habitat features that “scientific management” often overlooks (Banerjee et al 2024).

The costs of excluding Adivasi knowledge and participation are also evident. The utter inability of the forest departments to deal with invasive species, especially in woodland savannas, is a good example. Ecological evidence today suggests that ill-conceived suppression by forest departments of ecologically beneficial cultural burning of forests by Adivasis may have helped weeds establish and proliferate (Agnihotri et al 2021). Their deep understanding of human–wildlife interactions, seasonal ecological patterns, and subtle habitat requirements of various species represent an irreplaceable knowledge base that cannot be replicated through short-term scientific studies alone. We are thus witnessing the erosion of sophisticated traditional ecological knowledge systems that once helped maintain complex landscape mosaics supporting human communities and wildlife.

Moving forward requires a fundamental shift from viewing conservation through a lens of exclusion to collaboration. Rather than forcing a choice between scientific and traditional knowledge systems, we must create spaces for dialogue between these complementary ways of understanding nature. This is not merely about social justice—although that is a crucial concern—but about enriching our conservation practices with centuries of accumulated ecological wisdom. The future of Indian wildlife conservation lies not in displacing Adivasis but in empowering them as essential partners in protecting our shared natural heritage.

Green versus Green

The intersection of climate action and biodiversity conservation often reveals stark contradictions in India's environmental governance. While pursuing ambitious renewable energy targets to combat climate change, we are inadvertently accelerating biodiversity loss. The tragic decline of the Great Indian Bustard in the Thar desert epitomises this conflict—the same solar parks, wind farms, and power lines meant to reduce

carbon emissions are fragmenting crucial habitats and causing direct mortalities of this critically endangered bird.

Equally problematic is reducing nature's complexity to simplistic “climate solutions.” The widespread emphasis on tree planting as a primary carbon sequestration strategy ignores both ecological nuance and climate vulnerability. Canada's catastrophic forest fires in 2023 demonstrated how rapidly warming temperatures can transform carbon sinks into massive carbon sources, undoing decades of sequestration (Byrne et al 2024). Meanwhile, this forest-centric approach threatens other vital ecosystems—grasslands and wetlands are sacrificed for indiscriminate afforestation despite their unique biodiversity values and carbon storage capabilities.

This disjointed thinking is evident at every scale. The United Nations (UN) Convention on Biological Diversity (CBD) and the UN Framework Convention on Climate Change (UNFCCC) operate in isolation. India's nationally determined contributions (NDCs) under the Paris Agreement show little alignment with its National Biodiversity Strategy and Action Plan (NBSAP). The result is a fragmented approach that effectively serves neither climate nor conservation goals.

Yet, opportunities for synergy exist when we move beyond viewing nature merely as a climate mitigation tool. Ecological restoration that enhances native biodiversity while building resilience offers genuine climate benefits. The path forward requires reimagining this relationship—protecting ecosystem diversity rather than pursuing simplistic carbon metrics, carefully siting renewable infrastructure to minimise biodiversity impacts, and developing integrated policies that recognise ecological integrity as fundamental to climate resilience. We can only develop solutions that truly serve climate and conservation goals by acknowledging and addressing these complexities.

Promise over Practice

India's endorsement of the Kunming-Montreal Global Biodiversity Framework's ambitious “30×30” target masks deep contradictions in its conservation approach. While committing to protect 30% of lands and waters by 2030 in an “equitable and rights-based manner” sounds indisputable, India's track record shows a persistent infringement of indigenous rights in the process of protected area expansion and consolidation. This severe conflict necessitated the Forest Rights Act of 2006 to protect Adivasi communities from conservation-induced displacement.

The framework's dual emphasis on expanding protection while respecting indigenous rights demands transparent, inclusive processes. Yet, India's revision of its NBSAP has been notably opaque, with limited public consultation or indigenous participation (National Biodiversity Authority 2024). This mirrors a historical pattern where conservation decisions are made in bureaucratic chambers rather than through democratic dialogue with affected communities.

The contradiction is stark: while India commits internationally to rights-based conservation and powerfully voices equity concerns in global climate negotiations, domestically, it prioritises unequal, exclusionary approaches. The National

Tiger Conservation Authority's recent push to relocate forest dwellers from tiger reserves exemplifies this disconnect. Without fundamental reforms in how protected areas are conceptualised and governed, India's "30x30" commitment risks becoming another instrument of indigenous displacement rather than an opportunity for genuine rights-based conservation.

Beyond Forest Fixation

India's wildlife conservation remains trapped in a colonial paradigm that fetishises forests and charismatic megafauna while neglecting the remarkable diversity of its ecological tapestry. This forest-centrism represents a profound failure to recognise and protect the rich mosaic of ecosystems that characterise the subcontinent's natural heritage.

Open natural ecosystems—from grasslands and savannas to deserts—continue to be branded as "wastelands," a colonial categorisation that persists in modern policy. These unique landscapes, supporting specialised flora and fauna, like the Great Indian Bustard and Indian Wolf, are casually sacrificed for industrial agriculture, renewable energy infrastructure, or afforestation drives that ironically destroy native biodiversity in the name of conservation.

Our fresh water crisis is equally stark. Rivers, once dynamic living systems supporting complex ecological communities, have been reduced to engineered channels through aggressive damming and flow manipulation. The Gangetic Dolphin's decline mirrors the devastation of riverine ecosystems, while wetlands—critical for biodiversity and flood resilience—vanish under urban sprawl and industrial pollution. Despite their ecological significance, these aquatic systems receive far less attention and resources than are directed towards forest conservation.

The neglect extends to our 7,500-kilometre coastal, marine, and island territories. Mangrove forests face elimination for port development, while coral reefs deteriorate under the combined assault of warming seas and coastal pollution. As discussed above, the Great Nicobar development plan epitomises this blindness to island ecology and culture as it sacrifices tropical forests and coral reefs for a transshipment port, disregarding ecological uniqueness and indigenous rights.

Even as wildlife adapts to human-modified landscapes, our conservation frameworks remain inadequate. Agricultural landscapes harbour significant biodiversity, from critically endangered vultures, the Black-necked Stork and the rapidly declining Sarus Crane, to flourishing populations of blackbuck, nilgai and leopard. Yet, we lack coherent strategies to manage these emerging ecological dynamics. Urban ecosystems, supporting everything from leopards in Mumbai to flamingos in Navi Mumbai's wetlands, are treated as conservation anomalies rather than opportunities.

This myopic vision is not merely about lost biodiversity—it represents a failure to recognise how diverse ecosystems underpin India's ecological and cultural resilience. Moving forward requires dismantling colonial conservation paradigms and embracing a more inclusive vision that values all

ecosystems—from sacred groves to sea grass meadows, from desert communities to urban wetlands. Only then can we develop conservation strategies that authentically reflect not only India's ecological diversity but also its complex cultural relationships with nature.

Our challenges are not limited to natural ecosystems; they apply equally to our environmental governance ecosystem. India's wildlife conservation machinery remains stubbornly resistant to reform, trapped in colonial-era hierarchies and opacity. Critical data on wildlife populations, habitat status, and management effectiveness are either not collected, withheld from public scrutiny, or manipulated to serve institutional narratives. The recent shutdown of the PARIVESH portal, which provided public access to environmental clearance data, exemplifies this growing opacity.

Scientific research is increasingly restricted through complex permit systems and arbitrary access denials, especially from independent institutions. This gate-keeping extends beyond research to conservation practice—NGOs face mounting bureaucratic hurdles and funding restrictions, effectively sidelining external expertise and initiative. The forest bureaucracy's hostility to external scrutiny has created an echo chamber where management failures go unexamined and innovations remain unexplored.

This institutional sclerosis comes at a critical time when conservation challenges demand adaptive, transparent, and collaborative approaches. Without fundamental reforms in governance, data sharing, and stakeholder engagement, India's conservation institutions risk becoming obstacles rather than enablers of effective wildlife protection.

Reclaiming Conservation Spaces

India's conservation crisis demands more than legislative amendments or bureaucratic reforms—it requires fundamentally reimagining our relationship with nature. The conventional conservation paradigm, rooted in colonial legacies and embracing new-fangled market logic, has proven inadequate for a nation where ecological and cultural diversity are deeply intertwined.

Yet, amid this crisis lie seeds of hope. Across India, alternative conservation approaches are emerging from what we might call a "conservation pluriverse"—where indigenous knowledge systems coexist with scientific understanding, where community stewardship complements state protection, and where development goals align with ecological integrity. From community-managed forests in Mendha Lekha of Gadchiroli district in Maharashtra to the Maldharis regaining rights over the Banni grasslands of Kutch district in Gujarat (Mitra and Pokar 2022), these alternatives challenge conventional conservation wisdom while delivering tangible results.

The path forward requires embracing this plurality while addressing systemic failures. This means democratising environmental governance, restructuring conservation funding, and recognising diverse ecological knowledge systems. It means moving beyond simplistic trade-offs between development and conservation to find solutions that enhance both.

The Great Indian Bustard's plight remains a powerful reminder of "what is at stake." The same bird that lies dead beneath power lines in a sacred oran in Rajasthan could become a symbol of revival—if we can summon the wisdom to site renewable infrastructure thoughtfully, protect grasslands as zealously as forests, and empower local communities who

have traditionally protected the oran as conservation partners to keep out egregious infrastructure incursions. Like that of India's wildlife conservation, the bustard's future hinges not on more laws or larger budgets but on our capacity to imagine and implement more ethical, inclusive, and ecologically intelligent approaches to protecting our natural heritage.

REFERENCES

Aggarwal, Devina, Navin Kumar and Venkatesh Dutta (2020): "Impact on Endangered Gangetic Dolphins due to Construction of Waterways on the River Ganga, India: An Overview," *Environmental Sustainability*, Vol 3, pp 123–38, viewed on 3 December 2024, <https://link.springer.com/article/10.1007/s42398-020-00104-2>.

Aggarwal, Mayank (2019): "India Changes Coastal Rules, Bonanza for the Industry," *Mongabay-India*, 24 January, viewed on 3 December 2024, <https://india.mongabay.com/2019/01/india-changes-coastal-rules-bonanza-for-the-industry/>.

Agnihotri, Samira, C Madegowda and Aung Si (2021): "Tiger Becomes Termite Hill: Soliga/Solega Perceptions of Wildlife Interactions and Ecological Change," *Frontiers in Conservation Science*, Vol 2, Article 691900, viewed on 3 December 2024, <https://www.frontiersin.org/articles/10.3389/fcosc.2021.691900/full>.

Athrady, Ajith (2024): "Railways to Prepare New DPR for Hubballi–Ankola Line: Ashwini Vaishnav," *Deccan Herald*, 7 August, viewed on 3 December, <https://www.deccanherald.com/india/karnataka/railways-to-prepare-new-dpr-for-hubballiankola-line-ashwini-vaishnav-3141485>.

Banerjee, Sayan, Dibakar Nayak and Anindya Sinha (2024): "Adivasi (Tea Tribe) Worldviews of Living Close to Wild Asian Elephants in Assam, India," *Conservation Biology*, Vol 38, Article e14397, viewed on 3 December, <https://conbio.onlinelibrary.wiley.com/doi/epdf/10.1111/cobi.14397>.

Byrne, Brendan, Junjie Liu, Kevin W Bowman, Madeleine Pascolini-Campbell, Abhishek Chatterjee, Sudhanshu Pandey, Kazuyuki Miyazaki, Guido R van der Werf, Debra Wunch, Paul O Wennberg, Coleen M Roehl and Saptarshi Sinha (2024): "Carbon Emissions from the 2023 Canadian Wildfires," *Nature*, Vol 633, pp 835–39, viewed on 3 December, <https://www.nature.com/articles/s41586-024-07878-z>.

Chakravarty, Anupam (2024): "Adivasi Farmers Being Evicted from Kaziranga, among Asia's Most Militarised Protected Areas, for Big Hotels," *Down to Earth*, 8 June, viewed on 3 December 2024, <https://www.downtoearth.org.in/wildlife-biodiversity/adivasi-farmers-being-evicted-from-kaziranga-among-asias-most-militarised-protected-areas-for-big-hotels>.

David, Priti (2024): "Adivasis in Panna Tiger Park: Dammed Futures," *People's Archive of Rural India*, 28 November, viewed on 3 December, <https://ruralindiaonline.org/en/articles/adivasis-in-panna-tiger-park-dammed-futures/>.

Derhgawen, Shubhanghi and Deepanshu Mohan (2024): "In Chhattisgarh's Hasdeo, Coal Is Driving Humans and Elephants to Conflict," *Wire*, 16 November, viewed on 3 December, <https://thewire.in/environment/in-chhattisgarhs-hasdeo-coal-is-driving-humans-and-elephants-to-conflict>.

Dutta, Ritwick (2021): "National Board for Wildlife and the Illusion of Wildlife Protection," *Economic & Political Weekly*, Vol 56, No 3, 16 January, viewed on 3 December 2024, <https://www.epw.in/journal/2021/3/insight/national-board-wildlife-and-illusion-wildlife.html>.

Kedlaya, Gana (2022): "Valparai Way of Living with Elephants," *Deccan Herald*, 12 August, viewed on 3 December 2024, <https://www.deccanherald.com/science/valparai-way-of-living-with-elephants-1135414.html>.

Lahiri, Souparna and Valentina Figuera Martínez (2024): "Biodiversity Offsetting: A Corporate Social License to Perpetuate Biodiversity Destruction and Gender Inequality," *Global Forest Coalition*, October, viewed on 3 December, https://globalforestcoalition.org/wp-content/uploads/2024/10/EN_Biodiversity-Offsetting-Briefer.pdf.

Madhusudan, M D (2022): "Missing the Forest for the Trees: An Analysis of Rising Forest Cover in India State of Forest Reports, 1987–2021," *Medium*, 18 January, viewed on 3 December 2024, <https://mdmadhusudan.medium.com/missing-the-forest-for-the-trees-37a94c13ab8c>.

Ministry of Environment, Forest and Climate Change (2023): "Funds for Tiger Protection," *Unstarred Question No 2066*, Lok Sabha Debates, 13 March, viewed on 3 December 2024, <https://eparlib.nic.in/bitstream/123456789/1931825/1/AU2066.pdf>.

— (2024a): "Increase in Tiger Population," *Unstarred Question No 80*, Lok Sabha Debates, 25 November, viewed on 3 December, https://sansad.in/getFile/loksabhaquestions/annex/183/AU80_alotbT.pdf?source=pqals.

— (2024b): "Human–Elephant Conflict," *Unstarred Question No 1128*, Lok Sabha Debates, 29 July, viewed on 3 December, https://eparlib.nic.in/bitstream/123456789/2978206/1/AU1128_uBD2JB.pdf.

Mishra, Manish Chandra (2020): "Deforestation Pushes Elephants from Chhattisgarh to Madhya Pradesh, Increasing Conflict," *Mongabay-India*, 28 September, viewed on 3 December 2024, <https://india.mongabay.com/2020/09/wild-elephants-in-madhya-pradesh/>.

Mitra, Ritujia and Ritesh Pokar (2022): "Conservation as Tool for Assertion: How Banni Pastoralists Took Matters in Own Hands" *Down to Earth*, 9 August, viewed on 3 December 2024, <https://www.downtoearth.org.in/forests/conservation-as-tool-for-assertion-how-banni-pastoralists-took-matters-in-own-hands-84232>.

Nandi, Jayashree and Tannu Jain (2024): "Economy versus Ecology: Tourism Quandary Vexes Lakshadweep," *Hindustan Times*, 12 September, viewed on 3 December, <https://www.hindustantimes.com/india-news/economy-versus-ecology-tourism-quandary-vexes-lakshadweep-101726110907605.html>.

National Biodiversity Authority (2024): "India's Updated National Biodiversity Strategy and Action Plan," viewed on 3 December, http://nbaindia.org/uploaded/pdf/INDIA'S_UPDATEDNBSAP.pdf.

Pandey, Shashank and Debaditya Sinha (2022): "Analysis of Proposed Amendments to the Environmental Laws in Jan Vishwas (Amendment of Provisions) Bill, 2022," *Vidhi Centre for Legal Policy*, 22 December, viewed on 3 December 2024, <https://vidhilegalpolicy.in/research/analysis-of-proposed-amendments-to-the-environmental-laws-in-jan-vishwas-amendment-of-provisions-bill-2022>.

Pati, Ipsita (2024): "Notified Aravali Forest Portion Sold for Mining," *Times of India*, 15 September, viewed on 3 December, <https://timesofindia.indiatimes.com/city/chandigarh/notified-aravali-forest-portion-sold-for-mining/article-show/113359785.cms>.

Press Information Bureau (2023): "Coastal Erosion," 4 December, viewed on 3 December 2024, <https://pib.gov.in/PressReleaseFramePage.aspx?PRID=1982315>.

PTI/ToI (2023): "302 People Died in Tiger Attacks in Five Years," *Times of India*, 22 December, viewed on 3 December 2024, <https://timesofindia.indiatimes.com/india/302-people-died-in-tiger-attacks-in-five-years/articleshow/106216060.cms>.

Qureshi, Qamar et al (2021): "Status of Ganges River Dolphins, Threats, and Best Practices for Conservation," *Wildlife Institute of India, Dehradun*.

Ray, Kalyan (2022): "One More Great Indian Bustard Dies at Jaisalmer After Being Hit by a Power Transmission Line," *Deccan Herald*, 17 October, viewed on 3 December 2024, <https://www.deccanherald.com/india/one-more-great-indian-bustard-dies-at-jaisalmer-after-being-hit-by-a-power-transmission-line-1154532.html>.

Sinha, Anindya and Kakoli Mukhopadhyay (2013): "The Monkey in the Town's Commons, Revisited: An Anthropogenic History of the Indian Bonnet Macaque," *The Macaque Connection: Cooperation and Conflict between Humans and Macaques*, Radhakrishna, Sindhu, Michael A Huffman and Anindya Sinha (eds), *Developments in Primatology: Progress and Prospects* 43, Springer Science + Business Media LLC, pp 187–208.

Srinivasaiah, N, V Kumar, S Vaidyanathan, R Sukumar and A Madhusudan (2019): "All-Male Groups in Asian Elephants: A Novel, Adaptive Social Strategy in Increasingly Anthropogenic Landscapes of Southern India," *Scientific Reports*, Vol 9, Article 8678, viewed on 3 December 2024, <https://doi.org/10.1038/s41598-019-45130-1>.

Vats, Sukriti (2024): "How the NTCA Defied the Tribal Ministry, Its Own Officials to Order Massive Displacement of Tribals for 'Conservation,'" *Wire*, 11 October, viewed on 3 December, <https://thewire.in/environment/ntca-conservation-displacement-tribal-ministry>.

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