Pathway to Nature-Positive Business

Action and Finance

White Paper

January 2026

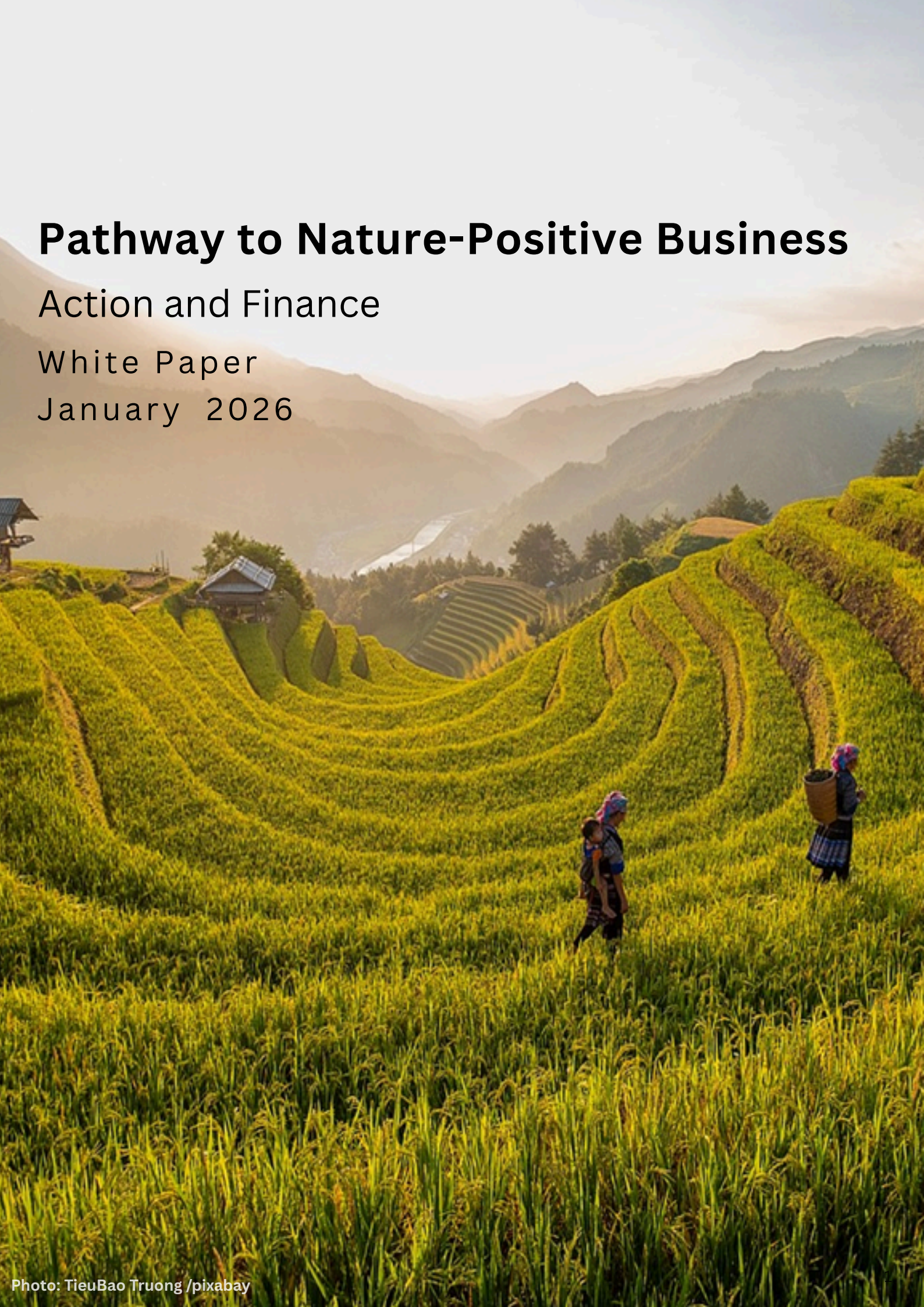


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EXECUTIVE SUMMARY

India’s ecological degradation is already eroding its economic resilience. India’s estimated average annual economic loss from climate-related hazards is approximately USD 87 billion (AAL), highlighting the large recurring cost risk from floods, droughts, soil degradation and biodiversity decline as per World Meteorological Organization’s State of the Climate in Asia (WMO/ESCAP) Report. This degradation is not merely environmental; it poses macroeconomic, financial and social risks, for all the sectors in varying degrees. The sectors such as agriculture, fisheries, infrastructure, and insurance are amongst the highly affected, which is of great concern owing to their lion’s share in Indian economy.

Meanwhile, global capital markets are rapidly integrating nature-related dependencies and risks. Frameworks such as the Taskforce on Nature-related Financial Disclosures (TNFD), International Sustainability Standards Board (ISSB), and Science Based Targets for Nature (SBTN) are becoming baseline expectations for investor credibility and market access. Indian businesses that fail to align risk marginalization in global value chains, while early adopters stand to gain from reputational distinction, regulatory readiness, and preferred access to green capital.

Based on selected case studies from India’s corporate sector, this white paper attempts to outline a structured pathway for embedding nature-positive principles into India’s business and finance systems, with a dual focus on strategic risk management and regenerative opportunity. It spotlights national instruments (Green Credit Programme, India Biodiversity Mission), subnational green launchpads (Tamil Nadu Green Climate Company) and nature-linked financial vehicles (SIDBI’s Fund of Funds), indicative of the country's slowly maturing climate and sustainable finance landscape that support aspirations and actions for nature-positive businesses.

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LIST OF ABBREVIATIONS

BRSR	Business Responsibility and Sustainability Report
CDP	Carbon Disclosure Project
IUCN	International Union for Conservation of Nature
NAPCC	National Action Plan on Climate Change
NBSAP	National Biodiversity Strategy and Action Plan
SBTi	Science Based Targets initiative
SBTN	Science Based Targets Network
SLL	Sustainability-Linked Loan
TCFD	Task Force on Climate-related Financial Disclosures
TNFD	Taskforce on Nature-related Financial Disclosures
WEF	World Economic Forum
WWF	World Wildlife Fund

INTRODUCTION

What is nature-positive?

Economic growth has always been dependent on the nature and its core elements - water, land, and biodiversity. Ecosystems of sorts have been providing raw materials as well as other resources on which businesses operate, however, these ecosystem "services" have often been treated as free unidirectional inputs, rather than as common assets with limits in need of consistent recycling. However, as water scarcity affects more and more agricultural yields, biodiversity loss increases operational risks across sectors, and land degradation disrupts supply chains globally, the gap between economic activity and ecological capacity is becoming harder to ignore day by day.

The concept of "nature-positive" has recently emerged from the widespread recognition on the global scale at which nature is being lost and the threat this poses to the collective survival of humanity [1]. Nature-positive is a global societal goal to halt and reverse the loss of nature across all four realms (water, biodiversity, air/climate, and soil/land), for the benefit of human and planetary well-being (Fig. 1) [2].

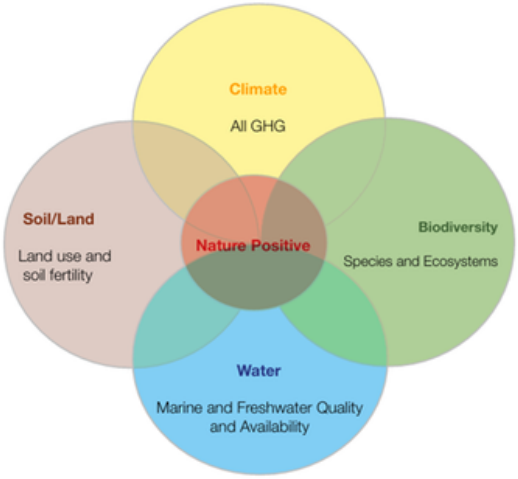


Figure 1: Schematic representation of realms of a nature positive goal which underpin and support society and economies

Source: IUCN, 2023

In December 2022, the Kunming-Montreal Global Biodiversity Framework (GBF) was agreed by the parties to the United Nations Convention on Biological Diversity towards the goal of halting and reversing nature loss by 2030 w.r.t. the 2020 baseline and achieving full recovery by 2050 (Fig.2). The goal represents a fundamental shift in how societies and businesses should interact with the natural world, moving from minimizing harm to actively contributing to nature's recovery [3]. The Global Goal for Nature outlines three aims, set against a baseline of 2020, to:

1. Achieve zero net loss of nature by 2020
2. Be nature net-positive by 2030
3. Have a full recovery of nature by 2050

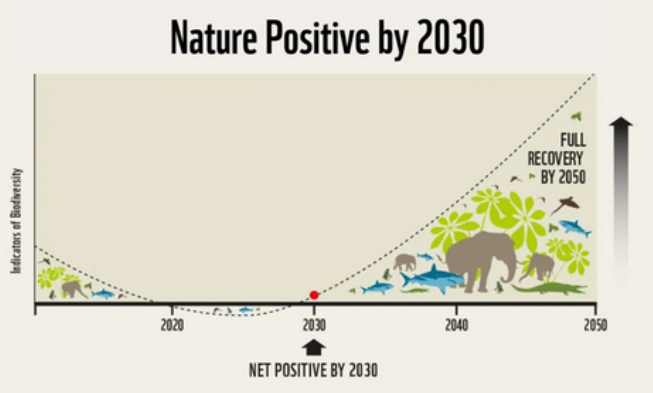


Figure 2: Trajectory towards nature positive by 2030

Source: www.naturepositive.org

While the term "nature-positive" is gaining prominence among the global community of nature conservation organizations, institutes, and coalitions, its meaning remains unclear and varies widely across organizations (Box 1). At present, there is no established consensus on what a "nature-positive business strategy" should include, or how this concept is substantively different from earlier approaches such as "no net loss" or "net positive impact" [4]. Such inconsistencies in definitions and methodology creates a real risk. If used without clear standards, the term will be more likely to become another piece of environmental jargon, furthering greenwashing or leading to actions that inadvertently harm nature rather than support it.

In light of these global appeals, this white paper explores how the concept of nature-positive business has emerged in response to the challenges of day. Before offering scenarios and potential solutions, it examines the underlying reasons why nature has remained economically invisible (Box 2), how such invisibility is beginning to be accounted for, and what early responses from businesses, policymakers, and financial institutions reveal about the new wave.

Box 1: Varied definitions of "Nature-Positive" globally

1."As per Global Common Alliances Nature Positive is an approach that enriched biodiversity, stored carbon, purified water and reduce risk pandemics."

2."An equitable, nature-positive and net zero world [would] ensure there is more nature globally in 2030 than there was in 2020, by halting and reversing the loss of nature to put nature on a path to recovery for the benefit of all people and the planet by 2030, as well as tackle climate change, achieve the Sustainable Development Goals, and enable people and communities to thrive in a healthy and stable future" **(IUCN, 2020)**

Can a Business Really Be Nature-Positive?

A business contributes to nature-positive outcomes when it actively restores and regenerates ecosystems across its operations and value chains while minimizing negative impacts—essentially "giving back more than it takes". [5]. This means putting back more than it takes. A consumer goods company regenerating degraded land, restoring freshwater ecosystems, and securing sustainable sourcing while eliminating pollution can achieve a nature positive status. Thus, in principle, can a business be nature-positive? Yes. Does it need exhaustive financial measures to calculate the impact? It is very likely. But can a business afford to delay? The answer might be "No" when the global economy is already operating outside the safe zone for six of the nine planetary boundaries (Fig. 3) – processes that are critical for maintaining the Earth's stability [6].

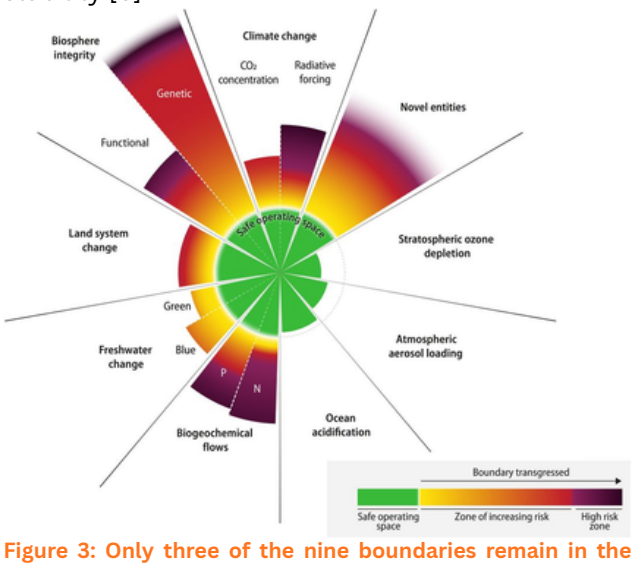


Figure 3: Only three of the nine boundaries remain in the green, safe operating zone.

Source: Richardson *et al.* 2023

The World Economic Forum (WEF 2023), report shows climate and environmental risks are now the most significant risks found by global executives for the next decade, but they are also the risks for which we are seen to be the least prepared [7]. Most companies, investors and lenders today do not comprehend their nature-related dependencies, impacts, risks, and opportunities and are inadequately accounting for nature in their strategies and capital allocation decisions. Data released by Carbon Disclosure Project (CDP) suggests that 70% of companies showing data through CDP did not assess the impact of their value chain on biodiversity in 2022 [8].

To illustrate how nature-related risks vary across sectors, a dependency–impact matrix is used (Fig. 4). This matrix utilizes the rationale behind the frameworks such as TNFD and Exploring Natural Capital Opportunities, Risks and Exposure (ENCORE), rooted in the fact that business risk arises both from reliance on natural systems and from pressures exerted on those systems. Sectors positioned in the high-dependency, high-impact quadrant (top right) face compounded exposure, as environmental degradation can directly affect operational continuity while also increasing regulatory and reputational risks.

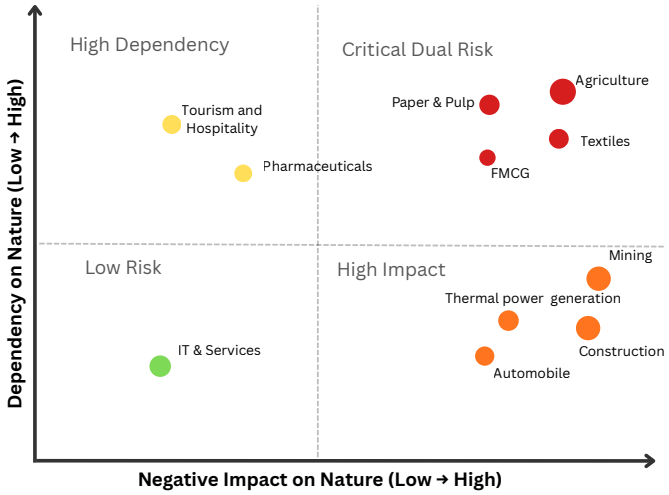


Figure 4: Sectoral exposure to nature-related risks based on dependency and impact. The positioning of the sectors shown is indicative and intended to support comparative understanding rather than a precise ranking.

Source: TNFD; ENCORE

For high-impact and high-dependency industries i.e. mining, oil and gas, infrastructure, intensive agriculture (right top and bottom quadrants in Fig. 4), depend on resource extraction and land-use conversion at a large scale, thus, their full nature-positivity in the near term is operationally infeasible. The situation may not be so grim for the low dependency industries (e.g. IT & Services) but feasibility in light of low to no accountancy, remains questionable. Unfortunately, low or not, feasibility can no longer afford to be inactive w.r.t. natural resources.

All businesses, regardless of sectors, need to apply the mitigation hierarchy: (1) avoid nature-damaging impacts, (2) minimize unavoidable damage, (3) restore affected ecosystems, (4) offset residual impacts with credible, verifiable conservation [9].

Turning back to Indian context, the nation's companies accessing international markets, seeking foreign institutional investments, or competing for ESG-linked financing, need to pay heed to accounting nature-related dependencies, impacts, risks, and opportunities as the global investments have increasingly started integrating nature-related criteria into capital allocation decisions [10].

METHODOLOGY

Research Design: This white paper is a secondary research study that synthesizes existing research, policy developments, and business practices to provide a practical guide for understanding and responding to nature-positive action.

Data Sources & Period: The analysis draws on credible sources including global frameworks (TNFD, SBTN), government policies, economic assessments, financial market analysis, and corporate disclosures from 2018–2025, supplemented by foundational research where needed.

Analytical Framework: Four interconnected perspectives guide the analysis:
Economic Dependency – Business reliance on water, land, forests, and biodiversity

- Risk Exposure – Physical disruptions, regulatory pressure, financial losses, and reputational damage from ecosystem degradation
- Policy Direction – Evolution of global and Indian environmental regulations
- Financial Integration – Capital flows, disclosure frameworks, and nature-positive investment mechanisms

Two case study demonstrate nature-positive action across different scales, selected based on publicly available information, and relevance to Indian business conditions.

Scope Limitations: This report provides strategic clarity, not technical implementation manuals, sector-specific operating instructions, investment advice, company-level biodiversity impact calculations, or financial valuations. It focuses on understanding change dynamics, risks of inaction, emerging tools, and early-mover lessons.

Box 2: India's Nature Dependencies and Risks: Five Critical Realms

Freshwater: Critical for Indian industries including agriculture; irrigation consuming 89% of freshwater withdrawals, textiles water-intensive processing, power generation; thermal plant cooling, and beverages direct water inputs [11]. Water scarcity rapidly emerging as a structural constraint on economic growth and urban resilience. Approximately 4 billion people globally experiencing severe water scarcity for at least part of the year, reflecting persistent imbalances between freshwater demand and available supply. [12] Freshwater security issues could threaten at least USD 425 billion in business value globally, creating an economic imperative to address water scarcity [13].

Ocean: Coastal zones, marine ecosystems, fisheries, relevant for ports managing 80% of India's trade by volume [14], fishing communities 14.5 million people dependent on marine fisheries [15], coastal tourism, and industries relying on maritime transport directly impacting India's seafood industry and coastal livelihoods. However, overfishing, agricultural and industrial runoff, air pollution and rising temperatures threaten ocean health [16]. Around 85% of the world's marine fish stocks are either fully exploited or overfished [17]. Plastics pollution causes global externalities of $139 billion annually, with impacts on marine biodiversity [18], and by 2050, there could be more plastic in the ocean than fish by weight [19].

Land: Forests, agricultural land, grasslands, urban green spaces. Affected by mining, real estate, plantation agriculture, and manufacturing requiring large land footprints. India's forest cover stands at 21.71% of geographic area as of 2021, with degraded land estimated at 97.85 million hectares requiring restoration [20]. Globally, business activities such as land conversion, overgrazing, expansion of monoculture farming, and continued irrigation contribute to land degradation, with an estimated 52% of the world's agricultural land classified as moderately or severely degraded according to the United Nations Convention to Combat Desertification [21]. Infrastructure expansion associated with energy production and urban development is a major driver of habitat fragmentation and biodiversity loss [21]. The Nature Risk Rising report highlighted that $44 trillion of economic value generation over half the world's total GDP is potentially at risk due to business dependence on nature and its services [22].

Atmosphere: Air quality and climate regulation traditionally viewed through climate policy lens, atmospheric quality affecting businesses through emission regulations, employee health, and ecosystem functions like monsoon patterns [15].

Biodiversity loss: The Living Planet Index tracks nearly 32,000 vertebrate populations across more than 5,000 species worldwide [23]. India follows the pattern.

Photo: Oliver Sjostrom/pexel

BUSINESS DEPENDENCIES ON NATURE AND BIODIVERSITY

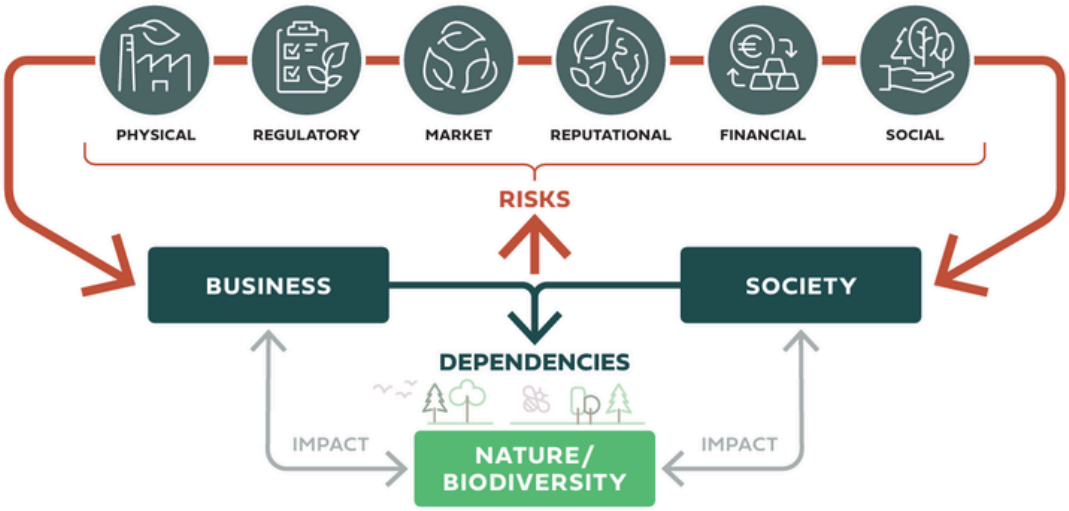


Figure 5: Categories of risks posed by the kinds and degrees of nature loss

Source: World Economic Forum, 2020

Sectoral Exposure: India-specific analysis

While nature-related risks are global, their impacts are shaped by local social and economic structures (Fig. 5). In India, where large segments of employment and GDP depend directly on land, water, and climate stability, the nature-related risks for Indian businesses are concentrated and widespread at a time. In 2024 businesses experienced nature-related disruptions, Chennai's floods disrupted automotive supply chains, Maharashtra's drought stressed water-intensive agro-aligned industries, and Kerala's landslides damaged infrastructure [24]. It is, thus crucial to understand the sector-specific dependencies as well as risks in the context of India.

Agriculture and Plantation companies: Direct dependence on soil health, water availability, pollinator services, and climate regulation. Degraded soils reduce productivity; water scarcity forces crop switches; pollinator decline lowers yields for high-value crops [25].

Mining and Extractives: Inherently transform landscapes and ecosystems. Progressive companies adopt biodiversity offset programs, progressive mine rehabilitation, and community benefit-sharing [26]. However, sector reputation suffers from legacy damage and ongoing conflicts with forest communities.

Textiles and Apparel: Water-intensive processing, chemical effluent generation, and cotton cultivation dependencies create multiple nature touchpoints. Dyeing facilities near water bodies face growing regulatory scrutiny.

Financial Services: Banks and insurers do not directly run environmentally damaging facilities but finance them. Axis Bank, HDFC Bank, ICICI Bank, India's largest lenders finance infrastructure, mining, power, and real estate with substantial biodiversity impacts [27].

Technology and Services: Lower direct nature impacts than manufacturing but significant indirect exposure through supply chains, hardware manufacturing, data center energy, water use, and real estate footprints.

The section sheds light on when we weigh in dependencies and risks, how nature-positive actions are a core business necessity, irrespective of the sector (Fig. 5). There is a growing realization within the industry sector in India that nature-positive actions cannot merely be compliance- and/or mandate-driven but a value can be created in facilitating such sustainable pathways and reinvested toward growth of companies and industry at large. The next section looks at how India's policy landscape has developed to create such pathways and what are the critical gaps (primarily financial challenges) that need addressing.

POLICY AND GOVERNANCE

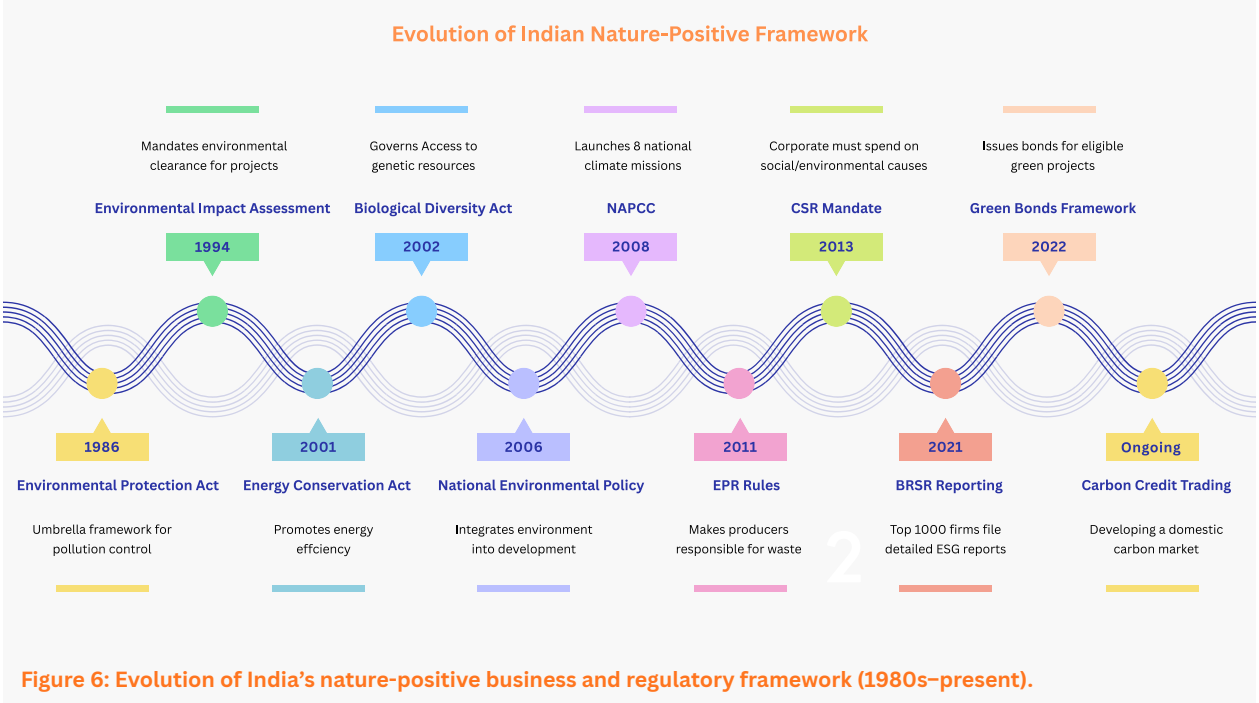


Figure 6: Evolution of India's nature-positive business and regulatory framework (1980s–present).

India's policy landscape for nature-positive business is maturing considerably. The Securities and Exchange Board of India (SEBI) introduced Business Responsibility and Sustainability Reporting (BRSR) in 2021, requiring the top 1,000 listed companies to disclose environmental performance using standardized metrics [28]. BRSR Core, requiring third-party assurance, is being phased in: top 150 companies in FY 2023-24, expanding to all top 1,000 by FY 2026-27 (Fig. 7) [29].

Internationally, the (TNFD) launched in 2021, establishing that companies must disclose nature-related dependencies, impacts, risks and opportunities—treating biodiversity loss as material financial risk [30]. In November 2025, Adani Ports became the first integrated transport utility in India to adopt the TNFD framework, committing to TNFD-aligned reporting from FY 2026 [31].

India's National Biodiversity Strategy and Action Plan (2024-2030) establishes 23 national biodiversity targets aligned with the Kunming-Montreal (GBF) [32]. The Biological Diversity Act (2002) creates a three-tier governance structure: National Biodiversity Authority, State Biodiversity Boards, and local Biodiversity Management Committees [33].

These frameworks are converging with the investor actions. In 2023, 190 institutional investors managing USD 23.6 trillion launched Nature Action 100, targeting corporate biodiversity performance [34]. Companies that fail to manage material nature-related risks increasingly face portfolio exclusion and higher capital costs as investors integrate biodiversity risk into financial decision-making [35].

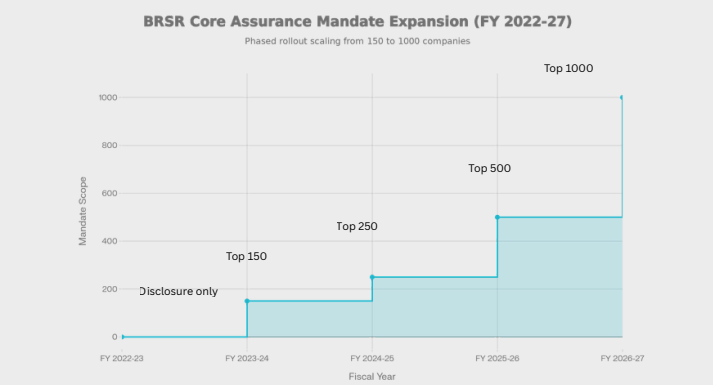


Fig 7: Phased rollout of third-party assurance under BRSR Core in India
Mandatory reasonable assurance under BRSR Core expands from 150 companies in FY 2023–24 to 1,000 companies by FY 2026–27.
Source: SEBI

GLOBAL FINANCIAL SCENARIO

The World Bank estimates that while produced capital per person increased by more than 47% between 1995 and 2020, reflecting growth in infrastructure, manufactured assets and financial wealth whereas renewable natural capital per person declined by around 20%, driven by losses in biodiversity and ecosystem services [36]. This divergence suggests that economic expansion has been achieved alongside the erosion of the natural systems.

United Nations Environment Programme analyses indicate that this imbalance reflects a structural bias in conventional measures of economic progress, where gains in produced and financial capital mask the depletion of natural capital, leading to development pathways that underestimate long-term environmental and economic risks [37].

In 2022 alone, approximately USD 7 trillion flowed into nature-negative activities, including USD 1.7 trillion in environmentally harmful public subsidies and USD 5 trillion in private finance, far exceeding the roughly USD 200 billion invested in nature-positive activities, of which less than 20% originated from private sources [38]. In effect, for every dollar invested in protecting nature, more than thirty dollars continue to finance its degradation.

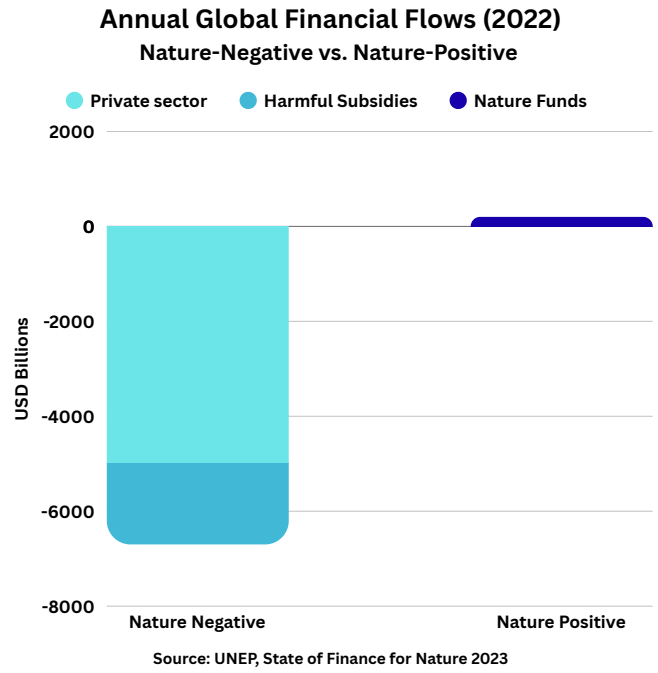


Figure 8: Global financial flows impacting nature, 2022
Nature-negative activities received approximately USD 7 trillion, while only USD 200 billion was invested in nature-positive activities.

Financial Gap

The Kunming-Montreal GBF reflects broader international goals to realign financial flows towards nature positive outcomes. Despite high-level goals, a massive funding shortfall persists. The United Nation estimates ~USD 700 billion per year is needed globally to implement the GBF, for India, climate finance needs alone reach USD 2.5 trillion to achieve 2030 emission intensity reduction targets under Paris agreement (NDCs), with only 25% of required funds raised through 2022 [39] whereas biodiversity protection and ecosystem restoration require significant additional capital. India assessed that approximately USD 16.5 billion would be required over a five-year period (2017–2022) to secure biodiversity outcomes, highlighting a substantial gap between required and available financing [40].

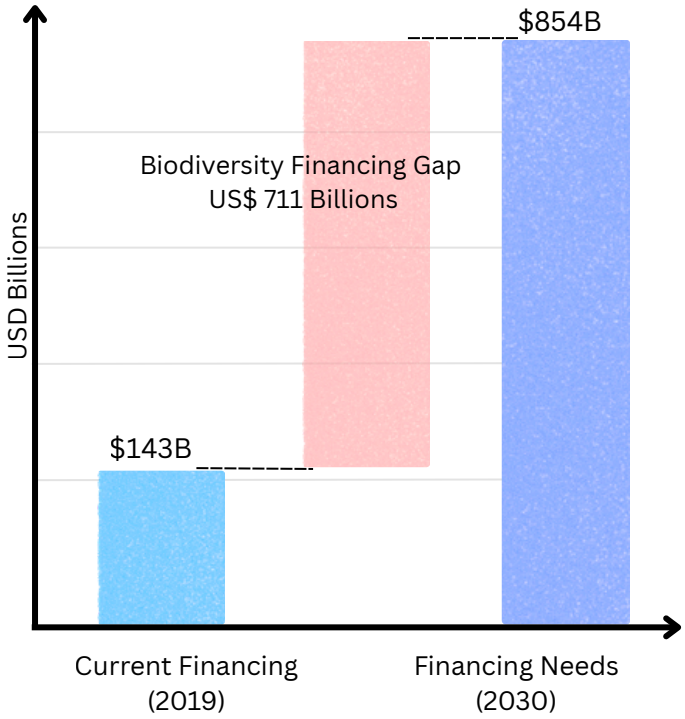


Fig 9: Global conservation financing compared to global biodiversity conservation need (US$ billions)

Source: Adapted from Deutz et al. (2020), Financing Nature: Closing the Global Biodiversity Financing Gap



Photo : Bern Dittrich/unsplash

The Indian Finance Landscape

India's sustainable finance (Fig. 10) shows development with public sector banks and institutions including the Indian Renewable Energy Development Agency (IREDA) playing a leading role, by December 2024, India issued USD 55.9 billion in green, social, sustainability, and sustainability-linked debt a 186% increase since 2021 ranking as the fourth-largest emerging market source globally [41]. Since January 2023, the Government of India has issued eight sovereign green bond tranches totalling approximately USD 5.7 billions, helping establish a domestic green yield curve that has supported market benchmarks and boosted investor confidence in India's sustainable finance market [41].

More recent reporting on India's updated National Biodiversity Strategy and Action Plan (NBSAP) indicates that annual investments of around USD 9–10 billion per year may be required through 2030 to meet national biodiversity targets, reflecting the expanded ambition and scale of implementation in the current decade [42].

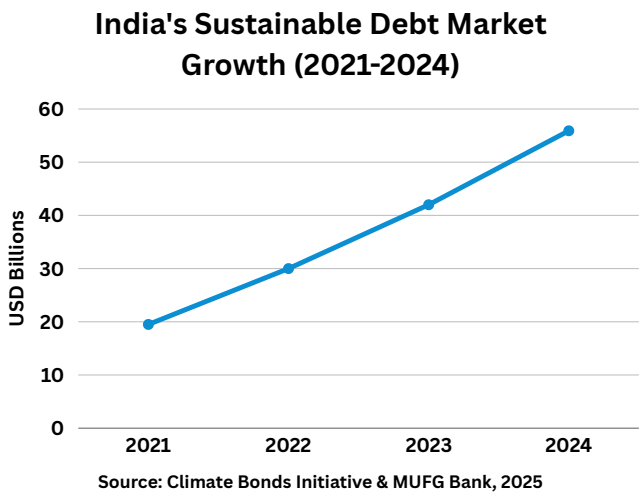


Figure 10: Growth of green, social, sustainability, and sustainability-linked debt issuance in India (2021–2024).

Nature as Infrastructure

Recent years have seen growing recognition of nature as a form of critical infrastructure underpinning the global economy, prompting increased efforts to measure and value its role in order to safeguard long-term economic stability. A global survey of investors conducted by Pollination indicates that investors across regions, asset classes and sizes are increasingly focused on nature-related issues, both in terms of reducing portfolio risk and harm and in identifying emerging, bankable nature-positive investment opportunities [43]. There is a clear economic and financial opportunity. Research shows the nature-positive economy could be worth an additional $10.1 trillion in annual business value in 2030 [44].

Financial Instruments for Nature

Several financial instruments can mobilize capital for nature-positive outcomes as per IFC, 2022):

Green Bonds: Debt securities that finance projects with environmental benefits. Green bonds follow the Green Bond Principles (GBP), which recommend transparency and disclosure about the use of proceeds.

Sustainability-Linked Loans (SLLs): Loans with terms tied to borrowers achieving predetermined sustainability performance targets.

Sustainability-Linked Bonds (SLBs): Bonds that make financial or structural characteristics conditional on meeting key performance indicators (KPIs) related to sustainability.

Blended Finance: Combining public and private capital to de-risk investments in nature-positive projects, particularly in developing countries.

The following sections examine how ecosystem degradation creates material business risks with financial implications, and companies that have begun addressing their dependencies.



Photo: Marcos Paulo Prado/Unsplash

Box 3: Key Challenges for Businesses

Material Dependencies on Natural Systems
Business operations depend on stable natural systems for inputs, processing, and distribution. Supply chain disruptions demonstrate the material nature of these risks.

Investor Integration of Nature-Related Criteria
Institutional investors are increasingly incorporating nature-related performance into capital allocation decisions. In 2023, 190 institutional investors managing USD 23.6 trillion launched Nature Action 100, a coordinated engagement program targeting corporate biodiversity performance [34]. Companies with poor nature-related disclosures may experience higher capital costs or reduced access to certain investment pools.

Turning Concepts to Actions
An ability to operationalize nature-positive actions is complicated. It is not just sector-specific but also context-specific as to how businesses can transition toward nature-positive contributions while managing dependency risks, regulatory requirements, and investor expectations.

BUSINESS CASE FOR NATURE

The following case studies are included to illustrate how different organisations have begun to engage with nature-related risks and opportunities in practice. These examples do not represent best practices or comprehensive solutions. Instead, they offer insight into early approaches, constraints and learning processes across different sectors.

Case Study 1: Aditya Birla Group

Aditya Birla Group is a global conglomerate active in 22 industry sectors, including fashion, finance, and mining [45]. In 2021, the group added "waste to wealth for circularity" to its ESG priorities, noting that global raw-material extraction has more than doubled since 1990 [46]. The United Nations' International Resource Panel indicates that extraction and processing of materials cause 55% of global GHG emissions and more than 90% of land-use related biodiversity loss [47].

Zero Waste to Landfill by 2030
The group has set a company-wide goal of zero waste to landfill by 2030. To coordinate efforts, it formed a "Waste2Wealth for Circularity" working group with representatives from across its companies [48]. Three practical examples demonstrate progress:

1. Industrial Symbiosis: Hindalco and UltraTech
Hindalco converts bauxite residue (red mud) from aluminum production into a substitute for limestone used in cement. Over one million tonnes of processed red mud are supplied annually to UltraTech Cement, cutting the need for newly mined raw materials [49]. By 2020, Hindalco was supplying red mud to more than 40 cement plants. UltraTech reports that 20.6% of its total raw material use now comes from alternative materials, including red mud [50].

2. Recycling at Scale: Novelis
Novelis, part of the group, focuses on recycled aluminum for automotive and beverage packaging sectors. It runs closed-loop recycling systems and, as of FY24, 63% of Novelis's product inputs came from recycled material [51].

3. Circular Products with Traceability: Liva Reviva
Birla Cellulose launched Liva Reviva, a fiber made from processed cotton waste. Compared with conventional options, it uses about 60% less water and 20–25% less energy. The fiber includes a traceability marker so brands and consumers can follow its lifecycle; about 20 global fashion brands use Liva Reviva [52].

Challenges and Next Steps
While the partnership between Hindalco and UltraTech represents a successful cross-group collaboration, it remains the only major example. The group has identified two practical problems hindering wider adoption: (1) many companies do not know which waste streams can replace raw materials at similar or lower cost, and (2) buyers often view taking waste as doing sellers a favor, creating pricing mismatches. Aditya Birla Group is actively involved in forums like WBCSD and FICCI to explore circular economy opportunities with other businesses [53].

Case Study 2: Holcim

Holcim Group is a Swiss-based global building materials company with net sales of CHF 16.2 billion in 2024 and more than 45,000 employees in 44 markets [54]. Operating in a sector that depends heavily on limestone quarries, land and freshwater, Holcim formalized its nature-positive strategy in 2021, committing to restore and preserve biodiversity and freshwater ecosystems while measuring outcomes through a methodology developed with the International Union for Conservation of Nature (IUCN) [55].

Governance and Strategy Integration

In June 2022, Holcim issued a Group-wide Nature Policy setting binding expectations for employees, suppliers and business partners on efficient use of natural resources, quarry planning, rehabilitation and engagement with local communities [56]. The company was the first global building materials company to have both its 2030 and 2050 net-zero targets validated by the Science Based Targets initiative across Scope 1, 2 and 3 [57]. Its long-term incentive plans include sustainability performance metrics explicitly tied to climate, nature and circularity, linking executive pay to environmental progress [58].

Progressive Quarry Rehabilitation

Holcim has moved beyond compliance-based rehabilitation toward transformative restoration guided by science-based indicators such as its Biodiversity Indicator and Reporting System (BIRS). At the Yepes quarry in Spain, over 500 hectares of semi-arid land have been restored into a natural reserve hosting more than 360 plant species. A United Nations-backed study described Holcim as "one of the frontrunners in the business community when it comes to measuring biodiversity" [59].

Holcim's Spanish operations have been used as a pilot in the UN NCAVES project to test natural capital accounting approaches for quarry restoration, demonstrating that the company is experimenting with integrating biodiversity values into decision-making rather than treating rehabilitation as a compliance add-on [60]. By 2022, all active quarries had rehabilitation plans in place and those in priority areas had biodiversity management plans [61].

External Recognition

This operational track record is reinforced by external assessments:

CDP "A" or "A–" leadership scores in climate and water, including a rare double "A" [62] Ranks first out of 47 construction materials companies in the World Benchmarking Alliance's Nature Benchmark [63] Sustainalytics rates Holcim at "low ESG risk," placing it at the top of the construction materials industry [64] Among the first three companies globally recognized by SBTN for adopting science-based targets for nature [65]. These elements show a resource-intensive company that has moved beyond ad-hoc biodiversity projects toward a relatively advanced, science-based and disclosure-heavy nature strategy.



Photo: Shifaaz Shamoon/Unsplash

IMPLEMENTATION CHALLENGES

Despite the urgency, several challenges slow progress toward nature-positive businesses:

Data and Measurement Gaps
Many countries lack complete inventories of species and ecosystems, especially for invertebrates and microbes. Companies often do not know which species or habitats exist on their sites or supply chains. Monitoring tools for biodiversity are less mature than for climate—there is no universal "biodiversity metric" like CO_2[66].

Financial and Capacity Constraints
Even with intent, the firms especially MSMEs, lack expertise or capital to act on nature. Financing smaller nature projects is challenging, as many sustainability-linked loans and bonds are too large or complex for mid-size firms. Scaling up requires aggregation, portfolio debt funds, blended finance, and technical assistance [38].

Regulatory Fragmentation
In India, biodiversity governance is structured through the National Biodiversity Authority (NBA), State Biodiversity Boards (SBBs), and local Biodiversity Management Committees (BMCs), creating a fragmented landscape. SBBs across India vary dramatically in capacity, enforcement priorities, and interpretation of rules. Legal ambiguities persist regarding benefit-sharing obligations for Indian entities using biological resources [67].

Social Sustainability Considerations
The Scheduled Tribes and Other Traditional Forest Dwellers Recognition of Forest Rights Act, 2006 mandates that the Gram Sabha must grant prior informed consent for any diversion of forest land. The process of recognizing these rights remains incomplete and contested in many areas, leading to delays, litigation, and reputational damage for projects [68].



Photo: Karsten Wurth/Unsplash

CONCLUSION

India's business landscape is experiencing a shift in how environmental dependencies are understood and managed. The select case studies in this white paper Aditya Birla Group and Holcim demonstrate that nature-positive approaches are being implemented through industrial symbiosis in manufacturing and science-based biodiversity measurement in extractive industries.

The Aditya Birla Group's conversion of bauxite residue into cement inputs shows that waste can become a resource when coordination mechanisms exist between business units. Holcim's integration of biodiversity indicators into quarry rehabilitation demonstrates that restoration outcomes can be measured and reported using established scientific frameworks.

However, implementation faces persistent challenges. Data gaps remain significant - companies often lack baseline information on species and habitats within their operational areas. Financial constraints limit access to nature-positive projects, particularly for MSMEs. Regulatory fragmentation across State Biodiversity Boards creates compliance uncertainty . The recognition of forest rights under the 2006 Act remains incomplete, leading to project delays.

India's policy architecture is maturing through BRSR Core disclosure requirements and alignment with international frameworks especially TNFD. These regulatory developments are converging with investor action, as demonstrated by Nature Action 100's engagement with companies managing USD 23.6 trillion in assets.

The transition toward nature-positive business models requires continued development of measurement systems, financing mechanisms accessible to firms of varying sizes, regulatory harmonization across states, and meaningful engagement with local communities holding forest rights. Early adopters may benefit from regulatory readiness and access to ESG-linked capital as disclosure requirements expand through 2027.

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