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# Strengthening Disclosures for Nature-Positive Finance in India: Issues and Challenges


## Executive Summary

*India has taken important steps to strengthen corporate environmental and social disclosure through Environmental, Social, and Governance (ESG) reporting and the Business Responsibility and Sustainability Reporting (BRSR) framework. These reforms have improved the structure, consistency, and transparency of corporate reporting. However, risks associated with deforestation and biodiversity loss, particularly those embedded in supply chains and remain insufficiently captured. As a result, banks, investors, and regulators face difficulties in fully understanding, assessing, and managing these environmental risks.*

*This policy brief recommends strengthening existing frameworks. It emphasises greater focus on risk-based assessment, improved disclosure of supply-chain and location-specific exposure, and clearer integration of nature-related financial risks into corporate reporting. These improvements are especially critical for high-exposure sectors such as natural rubber, palm oil, infrastructure, and agriculture. Effective implementation will require stronger coordination between regulatory institutions, including the Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (RBI), enhanced oversight by corporate boards, and greater use of credible public environmental data. A phased implementation strategy, beginning with large firms and high-risk sectors, will help companies adapt while maintaining regulatory ambition. By strengthening ESG and BRSR reporting in this manner, India can enhance financial system resilience, improve capital allocation, and support long-term, sustainable, and inclusive economic growth.*


## 1. Introduction

With the recent intensification of pressure on nature and ecosystems, the limits of conventional sustainable reporting have become increasingly visible, particularly in their ability to inform financial decision-making. Nature degradation, biodiversity loss, and deforestation can be recognised as material economic and financial risks for Indian corporates, particularly in sectors such as agriculture, food processing, mining, energy, and manufacturing [1] [2]. The production system of India is heavily dependent on natural resources, while growing domestic

[1] World Economic Forum. (2020). Nature risk rising: Why the crisis engulfing nature matters for business and the economy

[2] United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

demand and global trade linkages have led to an exposure to deforestation risk commodities such as palm oil and rubber. These linkages heighten corporate vulnerability to ecosystem degradation, regulatory tightening, supply-chain disruptions, community conflict, and reputational damage, all of which have direct implications for long-term business performance and financial stability[3].

Despite the rising significance of these risks, nature, biodiversity, and deforestation-related exposures are yet to be adequately reflected in the existing ESG disclosures or in India's Business Responsibility and Sustainability Reporting (BRSR) framework. The introduction of BRSR by the Securities Exchange Board of India (SEBI) was an important step towards the standardisation of sustainability reporting, but prevailing disclosures on land use, biodiversity impacts and deforestation remain fragmented and weakly linked to supply chain realities[4]. ESG and BRSR reporting often fail to provide regulators, investors and lenders with useful information on the scale, location and management of nature-related risks embedded in corporate operations and value chains [5] [6] [7].

Corporate reporting has emerged as a cornerstone of India's sustainability governance and financial oversight ecosystem. ESG and BRSR disclosures increasingly inform supervisory assessments, credit appraisal, and investment decision-making by regulators, banks, non-banking financial companies (NBFCs), and institutional investors [8]. However, failing to capture material nature and deforestation risk weakens market discipline and constrains the financial system's ability to price environmental risk accurately[9].

This policy brief positions enhanced corporate disclosure as a foundational step in addressing deforestation and biodiversity risks embedded within India's financial system. Strengthening ESG and BRSR frameworks through clearer and more decision-useful metrics, improved supply-chain transparency, and the introduction of commodity-specific indicators can help bridge the gap between environmental realities and financial decision-making by regulators,

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3 International Institute for Sustainable Development. (2023). Deforestation, financial risk, and sustainable finance in emerging economies.

4 Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting by listed entities

5 Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting (BRSR): Framework and guidance.

6 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

7 Taskforce on Nature-related Financial Disclosures. (2023). Recommendations of the Taskforce on Nature-related Financial Disclosures.

8 Reserve Bank of India. (2023). Discussion paper on climate risk and sustainable finance.

9 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

lenders, and investors [10] [11] [12]. In the absence of such improvements, nature-related risks remain poorly identified, underpriced, and insufficiently integrated into corporate risk management and financial assessments [13] [14].

Global developments have underscored the importance of reforming the corporate framework to better capture nature-related risk. Initiatives like the Taskforce on Nature-related Financial Disclosures (TNFD) emphasise the need for systematic reporting on corporate dependencies and impacts on nature as well as other related risks and opportunities across the operations and value chains[15]. These frameworks highlight the importance of location-specific, supply-chain-sensitive, and forward-looking disclosures, offering relevant reference points for strengthening India's ESG and BRSR architecture in a manner that supports regulatory oversight, financial stability, and long-term value creation [16] [17].

## 2. Nature, Biodiversity and Deforestation Risks in Indian Corporate Value Chains

Nature and deforestation risks are increasingly material for Indian corporates, particularly in land and resource-intensive sectors such as agriculture, food processing, infrastructure, mining and energy. Often, in many cases, these risks don't arise directly from operations but are embedded within extensive value chains that link firms to ecologically sensitive regions and deforestation risk commodities such as palm oil and natural rubber [18] [19].

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10 Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting by listed entities

11 Reserve Bank of India. (2023). Discussion paper on climate risk and sustainable finance

12 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

13 World Economic Forum. (2020). Nature risk rising: Why the crisis engulfing nature matters for business and the economy.

14 International Institute for Sustainable Development. (2023). Deforestation, financial risk, and sustainable finance in emerging economies.

15 Taskforce on Nature-related Financial Disclosures. (2023). Recommendations of the Taskforce on Nature-related Financial Disclosures.

16 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

17 World Economic Forum. (2020). Nature risk rising: Why the crisis engulfing nature matters for business and the economy.

18 World Economic Forum. (2020). Nature risk rising: Why the crisis engulfing nature matters for business and the economy.

19 International Institute for Sustainable Development. (2023). Deforestation, financial risk, and sustainable finance in emerging economies.

### Nature and Deforestation Risk Exposure Across Key Sectors

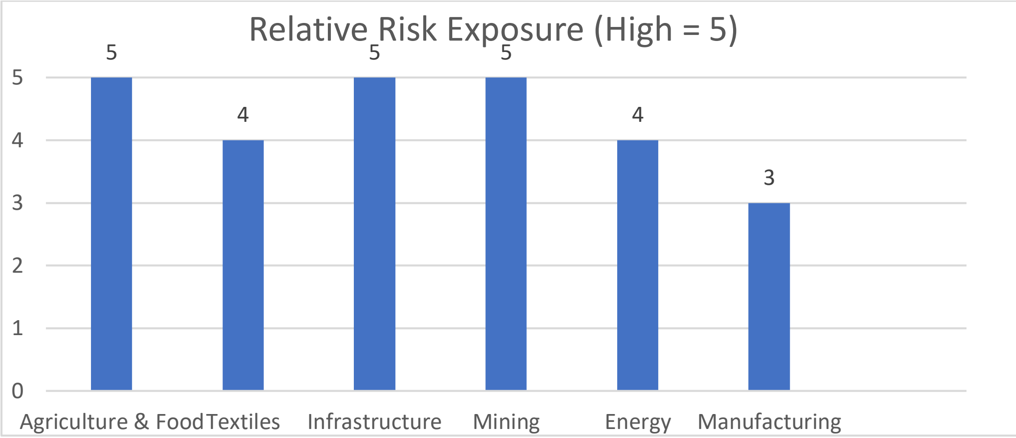


Figure 1: Illustrative representation of relative exposure to nature, biodiversity, and deforestation risks across selected sectors, based on a synthesis of existing literature on land-use intensity, supply-chain dependence, and ecosystem reliance.

*Source: Author's compilation based on synthesis of sectoral risk assessments from WEF, 2020, UNEP FI, 2022, and IISD, 2023*

As illustrated in Figure 1, sectors that have greater land dependency or ecosystem reliance tend to face greater exposure to regulatory, operational and market risk arising from deforestation and biodiversity loss.

### Disclosure across sectors

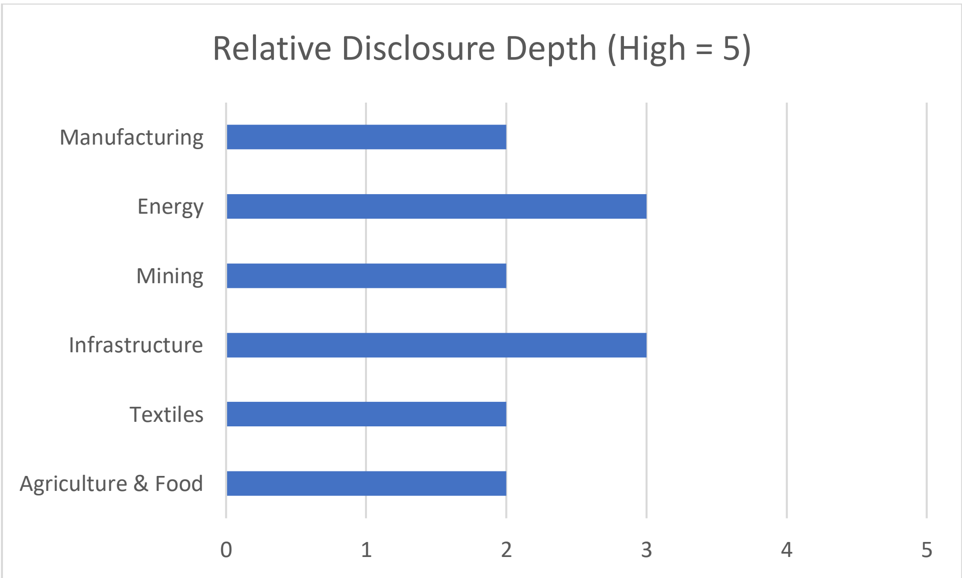


Figure 2: Depth of ESG and BRSR Disclosure on Nature and Deforestation Across Sectors (Illustrative)

*Source: Author's analysis based on SEBI (2021) and RBI (2023).*

Despite elevated exposures, corporate disclosures on nature and deforestation risk remain limited. As illustrated in Figure 2, ESG and BRSR disclosures vary in depth across sectors, while reporting on biodiversity, land-use change, and deforestation remains shallow. Even in sectors with high exposure, disclosures tend to focus on policy commitments and regulatory compliance, offering limited insight into the scale, location, and management of underlying risks [20].

The mismatch between Figure 1, which showcases risk exposure, and Figure 2, which showcases disclosure depth, has a direct impact on financial institutions and regulators. Inadequate visibility of nature-related risks constrains the ability of banks, non-banking financial companies (NBFCs), and investors to assess credit, investment, and transition risks accurately. At a system level, weak disclosure limits the capacity of regulators to identify concentrations of deforestation-related risk and to monitor potential spillovers within the financial system [21] [22]. Strengthening nature- and deforestation-related disclosure is therefore essential not only for environmental accountability but also for improving risk assessment, market discipline, and financial stability.

## 3. Evolution of Corporate ESG Reporting and BRSR in India: Progress and Structural Limitations

The evolution of corporate reporting in India reflects a gradual shift from voluntary, principle-based disclosures towards a more structured, regulatory-driven framework. Earlier reporting by Indian corporates was largely shaped by global voluntary standards and corporate social responsibility narratives with limited regulatory guidance. This resulted in uneven disclosure across sectors and firms, predominantly qualitative in nature, and oriented towards signalling corporate intent rather than supporting systematic risk assessment, comparability, or accountability [23] [24] [25].

The Business Responsibility Report (BRR) was the first attempt to establish non-financial disclosure for limited companies. Although the design of BRR was based on normative principles, it still anchored reporting requirements to a nationally defined set of business responsibility principles. It helped establish a baseline level of consistency for sustainability disclosures, which were previously voluntary and fragmented. Due to its primitiveness, the disclosures under BRR provide limited insights into scale and social impacts, exposure to value-chain risks, or the integration of sustainability considerations into corporate risk

[20] Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting by listed entities

[21] Reserve Bank of India. (2023). Discussion paper on climate risk and sustainable finance.

[22] United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions

[23] Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

[24] Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting (BRSR): Framework and guidance.

[25] United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions

management systems. This approach was rooted in an understanding of sustainability reporting primarily as a mechanism for demonstrating corporate responsibility and regulatory compliance, rather than as an input into financial risk analysis or supervisory oversight. As a result, ESG disclosures were not designed to systematically support prudential monitoring or risk-based decision-making. Subsequent regulatory assessments have underscored this limitation, particularly as ESG information has gained importance for evaluating transition risks, environmental externalities, and potential sources of systemic vulnerability within the financial system [26] [27] [28].

The transition from BRR to the Business Responsibility and Sustainability Reporting (BRSR) framework marks a significant regulatory advancement in India's ESG disclosure regime. Introduced by the Securities and Exchange Board of India and made mandatory for the top 1,000 listed companies, BRSR aims to enhance the comparability, standardisation, and decision-usefulness of sustainability disclosures through expanded quantitative indicators and broader coverage of environmental and governance issues [29]. This shift reflects growing investor, lender, and regulator reliance on ESG information, including from the Reserve Bank of India, to assess sustainability-related financial risks [30].

Over the years, ESG and BRSR disclosures in India have evolved largely through a climate and pollution lens, prioritising emissions, energy use, and resource efficiency, while factors such as nature-related risks have remained unaddressed [31] [32] [33]. The reporting framework remains company-centric, although deforestation and biodiversity risks arise beyond direct operations, particularly through imported commodities or upstream sourcing [34] [35]. Limited mandatory value-chain disclosures therefore constrain systematic reporting of these exposures [36] [37].

26 Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges

27 Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting (BRSR): Framework and guidance.

28 Reserve Bank of India. (2023). Discussion paper on climate risk and sustainable finance.

29 Securities and Exchange Board of India. (2021). Business responsibility and sustainability reporting by listed entities

30 Reserve Bank of India. (2023). Discussion paper on climate risk and sustainable finance.

31 Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

32 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

33 Taskforce on Nature-related Financial Disclosures. (2023). Recommendations of the Taskforce on Nature-related Financial Disclosures.

35 Taskforce on Nature-related Financial Disclosures. (2023). Recommendations of the Taskforce on Nature-related Financial Disclosures.

36 Securities and Exchange Board of India. (2021). Business responsibility and sustainability reporting by listed entities

37 Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

Limited data availability and capacity constraints within firms, especially those with complex supply chains, have led to a high level of disclosures that meet formal requirements without improving risk visibility [38] [39]. The absence of clearly defined, risk-oriented metrics, ESG, and BRSR disclosures remains qualitative and narrative-driven. In many cases, companies rely on descriptive statements about sustainability commitments or environmental management practices, which signal intent but provide limited insight into the scale, location, or financial relevance of nature-related risks [40]. Thus, the evolution of ESG and BRSR reflects not only meaningful regulatory progress but also the rationale behind the weekly integration of nature and deforestation risk [41] [42] [43].

Governance and enforcement mechanisms remain uneven. While disclosure requirements have expanded, supervisory follow-up and penalty structures related to environmental misreporting remain limited. This reduces incentives for firms to invest in advanced monitoring and reporting systems and encourages a compliance-driven rather than risk-driven reporting culture [44]. Together, these structural limitations explain why nature and deforestation risks remain weakly integrated into India's ESG and BRSR frameworks. Addressing them requires coordinated regulatory reforms, improved data infrastructure, and stronger supervisory oversight to ensure that sustainability disclosures meaningfully inform financial decision-making.

## 4. Applicability for MSMEs and Supply-Chain Challenges

ESG and BRSR reporting is primarily applicable to large listed companies. Still, it has deep implications for India's Micro, Small and Medium Enterprise (MSME) sector through supply chain relationships, financing conditions and procurement standards. MSMEs play a crucial role in sectors such as agriculture, agro-processing, rubber, textiles, and light manufacturing. As lead firms and financial institutions strengthen sustainability due diligence, MSMEs are increasingly required to disclose information on sourcing practices, land-use impacts, and environmental compliance [45] [46].

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38 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions

39 Reserve Bank of India. (2022). Discussion paper on climate risk and sustainable finance.

40 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

41 Securities and Exchange Board of India. (2021). Business responsibility and sustainability reporting by listed entities

42 Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

43 Taskforce on Nature-related Financial Disclosures. (2023). Recommendations of the Taskforce on Nature-related Financial Disclosures.

44 Securities and Exchange Board of India. (2021). Business Responsibility and Sustainability Reporting framework.

45 Organisation for Economic Co-operation and Development. (2021). SMEs and sustainability.

46 International Finance Corporation. (2022). ESG and small and medium enterprises: A guide for financial institutions

These requirements are passed down through supply chains using tools such as supplier audits, sustainability clauses in contracts, certification programmes, and digital tracking systems. Thus, MSMEs become indirect participants in sustainability reporting, especially in forest-risk commodity chains such as palm oil, natural rubber, timber, and agricultural inputs. In many cases, MSMEs face numerous challenges like limited resources, weak digital infrastructure, fragmented supplier networks, and dependence on informal intermediaries, which restrict their ability to trace raw material origins or document biodiversity impacts [47] [48]. As a result, many MSMEs comply with deforestation-related requirements mainly because large buyers demand it, rather than because clear and consistent regulatory guidance exists. While private sustainability standards can help improve transparency, they often place heavy financial and administrative pressure on smaller businesses, making it harder for them to remain part of formal supply chains [49].

To make reforms inclusive and effective, regulatory frameworks must address the realities of MSMEs, including simplified reporting, shared digital platforms, targeted training, and financing for sustainable sourcing [50] [51]. Phased reforms and connecting MSMEs to public environmental data can ease compliance and boost supply-chain transparency [52]. Without these measures, disclosure standards may mainly favour large firms, limiting their impact on deforestation and biodiversity risks in India's broader production system [53].

### Emerging MSME-Oriented Sustainability and Traceability Initiatives in India

| Sector | Initiative / Model | How MSMEs or Small Producers Are Integrated | Relevance for ESG / Forest-Risk Disclosure | Source |
|---|---|---|---|---|
| **Forestry & Timber** | Group certification under the Forest Stewardship Council (FSC) | Small forest enterprises and community producers can participate through group certification, which spreads audit and compliance costs across multiple small actors | Enables MSMEs in timber and forest-product supply chains to document sustainable sourcing and trace forest products | Forest Stewardship Council, 2023[54] |

47 World Bank. (2020). Small and medium enterprises (SMEs) finance.
48 Small Industries Development Bank of India. (2023). Annual Report 2024-25: MSME Outlook and Sector Insights
49 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.
50 Organisation for Economic Co-operation and Development. (2021). SMEs and sustainability.
51 International Finance Corporation. (2022). ESG and small and medium enterprises: A guide for financial institutions.
52 World Bank. (2020). Small and medium enterprises (SMEs) finance.
53 United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.
54 Forest Stewardship Council. (2023). FSC facts and figures.

| Sector | Initiative / Model | How MSMEs or Small Producers Are Integrated | Relevance for ESG / Forest-Risk Disclosure | Source |
|---|---|---|---|---|
| **Natural Rubber** | Traceability platform developed by the Rubber Board of India | Digital registration of farmers, dealers, processors, and exporters allows rubber supply chains to be mapped and traced to farm-level origin through mapping and transaction tracking tools | Supports compliance with emerging deforestation-free supply chain requirements (e.g., EU regulations) and strengthens environmental reporting | Rubber Board of India, 2024[55] |
| **Bamboo & Forest-Based MSMEs** | Programme under the National Bamboo Mission | Supports small producers and MSMEs through plantation support, processing infrastructure, skill development, and market linkages | Promotes sustainable forest-based livelihoods and improves documentation of forest-based raw material flows | Government of India, 2021[56] |

## 5. Key Disclosure Gaps in Palm and Rubber Value Chains

Due to the concentration of environmental risk, financial exposure, and regulatory fragility along a limited number of highly complex supply chains, palm oil and natural rubber have been chosen as priority commodities. These inputs support industries ranging from food processing and consumer products to tire and automotive manufacturing. India is one of the world's biggest importers of palm oil and a significant producer and user of rubber. As a result, a significant portion of business activity in India relies on raw resources, the production of which is strongly linked to land-use change, deforestation, and biodiversity loss. These ecological effects directly translate into commercial and financial risks, such as limited market access, increased compliance costs, and supply instability, as international markets increasingly incorporate environmental due diligence into trade regulations, most notably through the European Union Deforestation Regulation [57]. Therefore, rather than being minor sustainability issues, palm and rubber serve as conduits for systemic risk to enter India's corporate and financial institutions due to upstream environmental deterioration. Capital markets cannot appropriately price these vulnerabilities if disclosure mechanisms are unable to reflect them. Despite this materiality, existing ESG and Business Responsibility and Sustainability Reporting (BRSR) disclosures largely omit the primary sources of risk. Reporting remains focused on operational efficiency within company-controlled facilities, energy consumption, emissions, and waste, while the most consequential impacts occur upstream in procurement and supplier networks.

55 Rubber Board of India. (2024). Bharat Sustainable Natural Rubber (BSNR): Traceability and due diligence platform.

56 Government of India. (2021). Operational guidelines: National Bamboo Mission. Ministry of Agriculture and Farmers Welfare.

57 European Union Deforestation Regulation (EUDR) (Regulation on Deforestation-Free Products). (n.d.). PwC Germany.

This facility-centric approach creates a structural blind spot: companies may report improvements in internal resource efficiency even as their core inputs remain linked to high-deforestation regions. The result is a disconnect between reported sustainability performance and actual environmental exposure, reducing the analytical value of disclosures for investors and lenders. From a risk perspective, current reporting emphasises what is easiest to measure rather than what is most material, undermining the purpose of disclosure as a tool for informed decision-making [58].

A central weakness is the absence of standardised, commodity-specific indicators. Few firms disclose traceability to origin, the share of certified or deforestation-free sourcing, or supplier-level compliance outcomes. Without such metrics, sustainability claims are qualitative and non-comparable, limiting their usefulness for benchmarking or valuation. This lack of quantification perpetuates information asymmetry between corporates and financial stakeholders, making it difficult for banks and investors to differentiate low-risk from high-risk firms. In financial terms, this opacity leads to risk mispricing: capital may continue to flow to environmentally vulnerable supply chains because the underlying exposure is not visible. Over time, mispricing increases the probability of abrupt corrections triggered by regulatory shocks or trade barriers, amplifying transition risk across portfolios [59]. Limited supply chain transparency further compounds this problem. Most disclosures stop at Tier 1 suppliers, despite evidence that deforestation risks originate several tiers upstream among plantations and smallholders. The absence of origin-level visibility prevents verification of legality and undermines readiness for international due diligence regimes. As compliance obligations tighten, firms lacking traceability face heightened exposure to import restrictions and contractual penalties. In effect, insufficient transparency converts environmental uncertainty into commercial volatility. From a policy standpoint, disclosure frameworks that do not mandate upstream traceability inadvertently institutionalise this vulnerability. The predominance of narrative commitments over measurable targets also weakens accountability. Statements regarding "responsible sourcing" or "supplier engagement" rarely specify baselines, timelines, or outcomes, making progress impossible to evaluate. Such reporting reduces credibility and increases greenwashing risks, particularly as global standards shift toward metrics-based approaches such as those proposed by the Taskforce on Nature-related Financial Disclosures [60]. Markets depend on comparable and verifiable information; where disclosures rely on broad language, they fail to influence capital allocation or corporate behaviour. Finally, governance integration remains superficial. Nature-related risks are seldom embedded within enterprise risk management or board oversight structures, indicating that they are treated as peripheral compliance issues rather than strategic financial risks. This separation limits the likelihood that procurement decisions or capital allocation incorporate environmental

[58] Securities and Exchange Board of India. (2021, May 10). *Business responsibility and sustainability reporting by listed entities* (Circular No. SEBI/HO/CFD/CMD-2/P/CIR/2021/562). Securities and Exchange Board of India.

[59] Reserve Bank of India. (2023). *Framework for acceptance of green deposits and climate risk and sustainable finance initiatives.*

[60] Taskforce on Nature-related Financial Disclosures. (2023). *Recommendations of the Taskforce on Nature-related Financial Disclosures.*

costs. For regulators and financiers, weak governance signals undermine confidence that stated commitments will translate into operational change. Taken together, these gaps render current BRSR disclosures inadequate for assessing the true financial materiality of palm and rubber supply chains, constraining both market discipline and supervisory oversight.

## 6. Strengthening ESG and BRSR Frameworks: Governance, Implementation, and a Strategic Way Forward

A shift from compliance-oriented reporting to risk-oriented disclosure can address the current shortcomings in ESG and BRSR. This will reflect the spatial, supply-chain-driven, and financially material nature of deforestation and biodiversity loss. International experience shows that the way disclosure frameworks prioritise, structure, and operationalise information influences financial decision-making [61] [62].

In India, this challenge is particularly acute for deforestation-risk commodities such as palm oil and rubber, which are deeply embedded in complex domestic and international supply chains and closely linked to land-use change and biodiversity loss. Thus, to strengthen the ESG and BRSR framework, more targeted regulatory adjustments are required, aligning disclosure requirements with the mechanisms through which nature-related risks become financially material rather than a complete overhaul of the reporting framework.

### 6.1. Explicitly recognise deforestation and biodiversity loss as material financial risks within India's disclosure architecture

Over the years, there has been a consistent improvement in the ESG and BRSR framework, and the coverage of sustainability reporting, deforestation and biodiversity loss continues to be treated implicitly under broad environmental indicators. This limits their financial salience in an economy where infrastructural changes, land usage patterns, and sourcing of agricultural commodities remain central to growth [63]. Explicit classification of deforestation and biodiversity loss as material financial risks within BRSR would reinforce coherence between sustainability disclosures and the Reserve Bank of India's emerging environmental and climate risk agenda [64]. Recognition like this is particularly important for Indian organisations that are exposed to deforestation risk commodities such as palm oil and natural rubber, where risks are often indirect and embedded in the supply chain and often insufficiently captured through entry-level reporting.

[61] Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

[62] United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions.

[63] Securities and Exchange Board of India. (2021). Business responsibility and sustainability reporting by listed entities

[64] Reserve Bank of India. (2022). Discussion paper on climate risk and sustainable finance.

### 6.2. Align disclosure requirements with India's supply-chain realities and land-use pressures

Deforestation and biodiversity loss in India arise beyond a firm's direct operations. It occurs through upstream sourcing, contract farming arrangements, infrastructure development, and raw material imports. Yet ESG and BRSR disclosures remain largely company-centric, offering limited insight into value-chain and location-specific exposure. Strengthening BRSR should therefore prioritise disclosures that reflect India's supply-chain realities, including dependence on imported palm oil, domestic rubber sourcing from ecologically sensitive regions, and procurement from forest-adjacent districts. Even high-level geographic disclosure can materially enhance the ability of Indian regulators, lenders, and investors to assess transition, legal, and reputational risks linked to land-use change [65] [66]. A phased rollout, prioritising large firms and high-risk sectors, would enable regulators to advance disclosure reforms while remaining sensitive to existing capacity and data constraints.

### 6.3. Reorient ESG disclosures towards financial risk assessment relevant to Indian regulators and lenders

Although ESG disclosures have recently improved, they still mainly feature qualitative narratives centred on policies, certifications, and compliance statements. While these are useful for accountability, they offer a limited understanding of how nature-related risks might impact business continuity, input security, regulatory approvals, or costs over time[67]. Companies should be encouraged to conduct structured, forward-looking risk assessments like risk grading and scenario analysis, tailored to the Indian market and regulatory conditions. Incorporating emerging TNFD principles into these assessments can make disclosures more useful for banks and supervisors, who are increasingly responsible for integrating environmental risks into credit evaluation, portfolio management, and prudential oversight [68] [69].

### 6.4. Leverage India's public environmental data infrastructure to improve disclosure quality and credibility

India has a robust foundation of publicly available environmental data, including forest area and land-use change data, tracked and published by national bodies such as the Forest Survey of India, as well as international initiatives such as Global Forest Watch. By incorporating citations of such data sources into BRSR guidelines, the reporting requirement can be made less onerous while also increasing the quality, comparability, and verifiability of disclosures [70].

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65 World Economic Forum. (2020). Nature risk rising: Why the crisis engulfing nature matters for business and the economy.

66 International Institute for Sustainable Development. (2023). Deforestation, financial risk, and sustainable finance in emerging economies.

67 Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

68 Taskforce on Nature-related Financial Disclosures. (2023). Recommendations of the Taskforce on Nature-related Financial Disclosures.

69 Reserve Bank of India. (2022). Discussion paper on climate risk and sustainable finance.

70 Food and Agriculture Organization of the United Nations. (2022). The state of the world's forests 2022: Forest pathways for green recovery and building inclusive, resilient and sustainable economies.

In the case of commodities at risk of deforestation, encouraging companies to cite publicly available forest loss data for sourcing regions can also mitigate the risk of greenwashing, even in the absence of traceability at the company level.

### 6.5. Adopt reforms in a sequenced and sector/commodity-specific manner that is consistent with the policy agenda of the Indian government

Given the diversity of the Indian corporate sector, it is essential to implement nature-related disclosure requirements in a phased and tailored manner. A uniform approach to disclosures could either lead to unnecessary compliance costs or overlook significant risks in sectors with high impact. Sector- and commodity-specific guidelines, particularly for palm oil, rubber, agriculture, mining, infrastructure, and energy, would clarify regulatory expectations and allow the supervisory authority to focus on sectors where deforestation and biodiversity risks directly relate to financial stability [71] [72]. A step-by-step implementation, starting with large listed companies and later extending to other sectors, will help align disclosure reforms with India's broader policy goals on sustainable finance, financial stability, and responsible investing.

## 7. Conclusion

The ESG and BRSR framework marks a major regulatory milestone in institutionalising sustainability disclosure across India's capital markets. However, the limited and indirect treatment of deforestation risks, especially those embedded in domestic and global supply chains, restricts the ability of regulators and investors to accurately identify, price, and manage long-term environmental risk exposure[73] [74]. This weak linkage between environmental degradation and financial vulnerability reduces the practical value of ESG.

This policy brief showcases that the ESG and BRSR framework doesn't require wholesale institutional redesign, but rather requires targeted India-specific refinements. Deforestation and biodiversity loss as material financial loss are required to be shown explicitly, and reorienting reporting towards forward-looking risk assessment will be beneficial and enhance the decision-usefulness of ESG data. Such reforms are especially critical for high-exposure sectors and commodities, including palm oil and natural rubber, where environmental risks are geographically concentrated, largely indirect, and poorly captured through entity-level reporting practices [75] [76]. These adjustments will connect the disclosure framework to the real source of transition and physical risk within the economy. Importance must be given to strengthening governance and implementation. Embedding nature-related risk oversight within corporate boards, aligning SEBI's disclosure framework with the Reserve Bank of India's

[71] Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

[72] International Institute for Sustainable Development. (2023). Sustainable finance.

[73] Organisation for Economic Co-operation and Development. (2020). ESG investing: Practices, progress and challenges.

[74] Reserve Bank of India. (2022). Discussion paper on climate risk and sustainable finance

[75] International Institute for Sustainable Development. (2023). Sustainable finance.

[76] United Nations Environment Programme Finance Initiative. (2022). Nature-related financial risks: A primer for financial institutions

prudential agenda, and strengthening financial institutions' capacity to use ESG data are essential for effective supervision. Leveraging public environmental datasets and adopting a phased, sector-specific approach can further improve credibility while balancing regulatory ambition with corporate capacity.

# Annexure

### Nature and Deforestation Risk Exposure Across Key Sectors

| Sector | Land-Use Intensity (40%) – Proxy: share of sector linked to land transformation | Ecosystem Service Dependence (30%) – Proxy: reliance on water, soil fertility, climate regulation | Exposure to Deforestation-Risk Commodities (30%) – Proxy: share of inputs linked to palm oil, rubber, timber, etc. | Weighted Composite Score | Final Relative Risk (1–5) |
|---|---|---|---|---|---|
| **Agriculture & Food** | ~50–60% of India's total land area used for agriculture; very high land conversion pressures. **Score: 5** | Highly dependent on soil fertility, water availability, pollination and climate regulation. **Score: 5** | Supply chains linked to commodities such as palm oil, soy and cattle products; India imports ~9–10 million tonnes of palm oil annually. **Score: 4** | **4.7** | **5 (Very High)** |
| **Textiles** | Cotton cultivation accounts for ~12–13 million hectares in India. **Score: 3** | Strong dependence on water and agricultural inputs for cotton and other fibres. **Score: 3** | Cotton and viscose supply chains linked to deforestation-risk raw materials in global markets. **Score: 4** | **3.4** | **4 (High)** |
| **Infrastructure / Construction** | Rapid land conversion due to roads, urban expansion and industrial corridors; ~1.5–2 million hectares converted annually. **Score: 5** | Infrastructure development strongly linked to ecosystem stability and water resources. **Score: 4** | Limited but indirect exposure through timber, construction materials and land clearing. **Score: 3** | **4.1** | **5 (Very High)** |
| **Mining** | Mining activities often concentrated in forested and biodiversity-rich regions despite occupying ~0.14–0.2% of land area. **Score: 5** | Dependence on ecosystem stability and water systems for extraction operations. **Score: 4** | Limited commodity-linked deforestation exposure but significant ecological disturbance through land clearing. **Score: 3** | **4.1** | **5 (Very High)** |
| **Energy** | Land requirements associated with coal mining, hydropower reservoirs and renewable energy infrastructure. **Score: 4** | Moderate-to-high dependence on water resources and ecosystem stability. **Score: 3** | Limited direct linkage to deforestation-risk commodities. **Score: 2** | **3.3** | **4 (High)** |
| **Manufacturing** | Relatively lower direct land transformation compared to primary sectors. **Score: 2** | Moderate dependence on water resources and raw material inputs. **Score: 2** | Limited direct exposure to deforestation-risk commodities. **Score: 2** | **2** | **3 (Moderate)** |

## Sectoral Assessment of Nature-Related Disclosure Depth Based on Regulatory Reporting Frameworks (2021–2023)

| Sector | Companies Reviewed (N) | % Reporting Land-Use / Biodiversity Impacts (SEBI BRSR Indicators) | % Reporting Supply Chain Environmental Risks | % Reporting Climate / Nature-Related Financial Risks (RBI Guidance) | Average Disclosure Coverage (%) | Derived Disclosure Score (1–5) |
|---|---|---|---|---|---|---|
| **Agriculture & Food** | 20 | 35 | 3 | 32 | 32 | **2** |
| **Textiles** | 18 | 33 | 29 | 31 | 31 | **2** |
| **Infrastructure** | 22 | 48 | 45 | 42 | 45 | **3** |
| **Mining** | 16 | 4 | 36 | 38 | 38 | **2** |
| **Energy** | 21 | 52 | 48 | 46 | 49 | **3** |
| **Manufacturing** | 25 | 3 | 27 | 29 | 29 | **2** |

Disclosure depth was assessed through a review of corporate sustainability and regulatory disclosures published between 2021 and 2023 under the Business Responsibility and Sustainability Reporting (BRSR**)** framework issued by the Securities and Exchange Board of India and climate-related financial risk guidance issued by the Reserve Bank of India**.**

The assessment considered three indicators**:** (i) biodiversity and land-use impact disclosure, (ii) supply-chain environmental risk reporting, and (iii) climate and nature-related financial risk disclosure. Sectoral scores represent the average proportion of companies reporting these indicators across 2021–2023, providing a comparative snapshot of disclosure depth rather than a time-trend analysis.

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