



Environmental, Social and Governance (ESG) Guidelines in India and Their Impact on Environmental Sustainability, Social Responsibility, and Corporate Governance: A Review

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Abstract

Environmental, Social, and Governance (ESG) has become a globally recognized framework for evaluating corporate sustainability, ethical business practices, and long-term value creation. Increasing environmental challenges, social expectations, and governance reforms have prompted governments and organizations to integrate ESG principles into business strategies and regulatory policies. In India, ESG has evolved significantly through initiatives such as the Companies Act, 2013, National Guidelines on Responsible Business Conduct (NGRBC), and the Securities and Exchange Board of India (SEBI) Business Responsibility and Sustainability Report (BRSR). These initiatives aim to improve corporate transparency, environmental protection, stakeholder engagement, and responsible governance. This review examines the evolution of ESG guidelines in India and critically analyses their impact on environmental sustainability, social responsibility, and corporate governance. The study synthesizes recent literature published between 2020 and 2026, together with regulatory frameworks and industry practices, to identify the major achievements, implementation challenges, and future opportunities associated with ESG adoption. The review indicates that ESG implementation has strengthened environmental management,

improved stakeholder confidence, enhanced governance practices, and promoted sustainable investment. However, challenges including inconsistent ESG ratings, greenwashing, limited disclosure standardization, and compliance costs continue to hinder effective implementation. The paper concludes by highlighting future research directions and policy recommendations for strengthening ESG practices in India.

Keywords: ESG, Sustainability, BRSR, Corporate Governance, Environmental Sustainability, Social Responsibility, India.



1. Introduction

Environmental sustainability and responsible business practices have become central themes in global economic development. During the last two decades, industries have faced increasing pressure to balance economic growth with environmental conservation, social responsibility, and ethical governance. Climate change, resource depletion, biodiversity loss, pollution, occupational health concerns, and growing stakeholder expectations have fundamentally changed the way organizations measure business performance. Consequently, companies are increasingly expected to demonstrate responsible environmental practices, transparent governance systems, and meaningful contributions to society rather than focusing solely on financial profitability [1–4].

Traditionally, corporate performance was assessed using financial indicators such as revenue, profitability, market share, and shareholder returns. Although these measures remain important, they are insufficient for evaluating the long-term sustainability and resilience of organizations. Financial success achieved at the expense of environmental degradation, poor labour practices, or weak governance may expose companies to significant operational, legal, and reputational risks. Investors, regulators, customers, and financial institutions therefore increasingly consider non-financial indicators while evaluating corporate performance, resulting in the widespread adoption of the Environmental, Social, and Governance (ESG) framework [1,5].

ESG provides a structured approach for evaluating corporate sustainability by integrating three interconnected dimensions. The environmental component assesses how organizations manage natural resources, greenhouse gas emissions, pollution, energy consumption, waste generation, water conservation, climate change mitigation, and biodiversity protection. The social component evaluates employee welfare, occupational health and safety, diversity and inclusion, human rights, customer satisfaction, supply chain responsibility, community development, and corporate social responsibility (CSR). Governance focuses on ethical leadership, board diversity, transparency, shareholder rights, regulatory compliance, anti-corruption measures, enterprise risk management, and accountability [2,6].

The increasing importance of ESG has transformed investment strategies worldwide. Institutional investors and financial markets increasingly recognize that organizations with strong ESG performance generally demonstrate better risk management, operational efficiency, innovation capability, and long-term financial resilience. Sustainable investment funds have expanded rapidly, encouraging businesses to improve ESG performance to attract responsible investment and maintain competitiveness in international markets [7].

Several international initiatives have accelerated ESG adoption globally. The United Nations Sustainable Development Goals (SDGs), Paris Climate Agreement, Global Reporting Initiative (GRI), Task Force on Climate-related Financial Disclosures (TCFD), and International Sustainability Standards Board (ISSB) have established internationally accepted sustainability reporting principles. These frameworks encourage organizations to disclose environmental impacts, climate-related risks, governance practices, and stakeholder engagement activities in a transparent and comparable manner [5,8].

India has emerged as one of the leading developing economies promoting ESG implementation through regulatory reforms and sustainability initiatives. The country's ESG journey has progressed from voluntary corporate responsibility initiatives to mandatory sustainability reporting requirements. The Ministry of Corporate Affairs (MCA) introduced the National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business in 2011, which were later revised as the National Guidelines on Responsible Business Conduct (NGRBC) in 2019. These guidelines established nine principles encouraging responsible business conduct across environmental, social, and governance dimensions [9].



A major milestone in India's sustainability journey was the implementation of the Companies Act, 2013, which introduced mandatory Corporate Social Responsibility (CSR) expenditure for eligible companies under Section 135. India became one of the first countries to legally mandate CSR spending, strengthening corporate participation in social development and environmental protection. Subsequently, the Securities and Exchange Board of India (SEBI) replaced the Business Responsibility Report (BRR) with the Business Responsibility and Sustainability Report (BRSR), making sustainability disclosures mandatory for the top 1,000 listed companies by market capitalization. More recently, SEBI introduced the BRSR Core framework and value-chain disclosure requirements to improve the reliability, comparability, and assurance of ESG reporting [10–12].

The implementation of ESG practices has generated measurable improvements across multiple sectors in India. Companies increasingly invest in renewable energy, cleaner production technologies, waste minimization, water conservation, resource efficiency, and circular economy initiatives to reduce environmental impacts. Simultaneously, greater emphasis has been placed on employee welfare, workplace diversity, occupational safety, human rights, community engagement, and responsible sourcing to strengthen social sustainability. Governance reforms emphasizing board independence, ethical leadership, transparency, and enterprise risk management have further enhanced investor confidence and corporate accountability [13–16].

Despite considerable progress, several challenges continue to influence ESG implementation. Greenwashing, inconsistent ESG ratings, differences in disclosure methodologies, inadequate assurance mechanisms, limited sustainability expertise, and high compliance costs remain significant concerns for businesses and investors. These challenges are particularly evident among small and medium enterprises, which often lack the financial and technical resources required for comprehensive ESG implementation. Recent studies have also emphasized the importance of digital technologies, artificial intelligence, and data analytics in improving ESG reporting accuracy and supporting sustainability decision-making [17–20].

A growing body of research has examined the relationship between ESG performance and sustainable development. Recent studies have demonstrated that ESG practices contribute to improved environmental performance, stronger governance systems, greater stakeholder confidence, enhanced operational efficiency, and increased corporate resilience [13,15,18]. Patyrykin and Vasyukova [21] critically highlighted that despite the rapid expansion of ESG reporting, inconsistencies in ESG ratings and greenwashing remain significant concerns, particularly in sectors where indirect environmental impacts are difficult to quantify. Their findings emphasize the importance of improving disclosure quality, standardizing ESG metrics, and strengthening independent assurance mechanisms.

Digital transformation is also becoming increasingly important in ESG implementation. Patel and Patyrykin [22] demonstrated that advanced digital platforms and organizational automation improve strategic decision-making, transparency, operational efficiency, and stakeholder engagement, all of which indirectly support effective ESG governance. Similarly, advances in artificial intelligence have enabled organizations to improve sustainability monitoring, predictive maintenance, environmental management, and resource optimization. Recent research has shown that AI applications can significantly enhance sustainable manufacturing, environmental monitoring, and ESG performance measurement by enabling data-driven decision-making and improving operational efficiency [18,19].

Although ESG has become an important research area, most existing studies focus on specific dimensions such as environmental reporting, corporate governance, or social responsibility independently. Comprehensive reviews integrating India's evolving ESG regulatory framework with its environmental, social, and governance impacts remain relatively limited. Furthermore, recent developments including BRSR Core, value-chain



disclosures, mandatory assurance, ESG ratings, and digital sustainability reporting have received comparatively less attention in review literature.

Therefore, this review aims to (i) examine the evolution of ESG guidelines in India, (ii) analyse the country's major ESG regulatory framework, (iii) evaluate the impact of ESG implementation on environmental sustainability, social responsibility, and corporate governance, and (iv) identify current challenges and future opportunities for strengthening ESG practices. The review provides an integrated understanding of India's ESG ecosystem and offers useful insights for policymakers, researchers, investors, and industry practitioners.

2. Review Methodology

2.1 Review Design

A systematic literature review approach was adopted to analyse the development of ESG guidelines in India and evaluate their impacts on environmental sustainability, social responsibility, and corporate governance. A systematic review enables the identification, evaluation, and synthesis of existing knowledge while minimizing selection bias through predefined search strategies and inclusion criteria. The review combines evidence from peer-reviewed journal articles, government reports, regulatory guidelines, and policy documents to provide a comprehensive understanding of India's ESG landscape.

2.2 Literature Search Strategy

Relevant literature was collected from internationally recognized scientific databases, including Scopus, Web of Science, ScienceDirect, SpringerLink, Wiley Online Library, Taylor & Francis, Emerald Insight, IEEE Xplore, and Google Scholar. Regulatory documents published by the Securities and Exchange Board of India (SEBI), Ministry of Corporate Affairs (MCA), Reserve Bank of India (RBI), and other government agencies were also reviewed to capture recent developments in ESG regulations.

The primary search keywords included "Environmental Social Governance", "ESG India", "Business Responsibility and Sustainability Report", "BRSR", "Corporate Sustainability", "Corporate Governance", "Responsible Business Conduct", "Sustainable Finance", "Environmental Reporting", "CSR India", "Green Finance", and "ESG Disclosure". Various combinations of these keywords were used to maximize literature coverage.

2.3 Inclusion and Exclusion Criteria

The review primarily considered peer-reviewed journal articles published between 2020 and 2026, while including earlier landmark studies that significantly contributed to ESG theory and sustainability reporting. Official policy documents, SEBI circulars, MCA guidelines, RBI publications, and internationally recognized sustainability frameworks were also included.

Conference papers lacking sufficient methodological detail, non-English publications, duplicate records, opinion articles without supporting evidence, and studies unrelated to ESG implementation or sustainability reporting were excluded from the review.



2.4 Literature Analysis

After screening the selected publications, the literature was classified into four major themes:

1. Evolution of ESG regulations in India.
2. Environmental impact of ESG implementation.
3. Social and governance outcomes of ESG adoption.
4. Emerging challenges and future research opportunities.

The selected studies were critically analysed to identify common findings, research trends, policy developments, implementation challenges, and existing research gaps. Particular emphasis was placed on recent regulatory developments such as the BRSR framework, BRSR Core disclosures, ESG assurance, sustainable finance initiatives, and digital technologies supporting ESG implementation.

3. ESG Guidelines and Regulatory Framework in India

India's ESG framework has evolved considerably over the past two decades in response to increasing environmental concerns, global sustainability commitments, investor expectations, and regulatory reforms. Unlike many developing countries where sustainability reporting remains largely voluntary, India has progressively introduced mandatory disclosure requirements for listed companies, making ESG an integral component of corporate governance and business strategy. The evolution of India's ESG ecosystem reflects a transition from voluntary corporate responsibility initiatives toward a comprehensive regulatory framework emphasizing accountability, transparency, stakeholder engagement, and sustainable development.

The development of ESG regulations in India has been shaped by multiple institutions, including the Ministry of Corporate Affairs (MCA), the Securities and Exchange Board of India (SEBI), the Reserve Bank of India (RBI), and various environmental regulatory agencies. Together, these institutions have established policies promoting responsible business conduct, sustainability reporting, climate-risk management, corporate governance, and sustainable finance.

3.1 Evolution of ESG Regulations in India

The evolution of ESG in India has occurred through a series of progressive regulatory reforms that have strengthened corporate sustainability reporting and responsible business conduct. Initially, sustainability initiatives were largely voluntary and focused on corporate philanthropy and environmental compliance. However, increasing global attention towards climate change, responsible investment, and sustainable development encouraged Indian regulators to introduce structured ESG frameworks aligned with international best practices.

The Ministry of Corporate Affairs (MCA) initiated this transition by introducing the National Voluntary Guidelines (NVGs) in 2011, encouraging businesses to adopt responsible environmental, social, and governance practices. These guidelines were revised in 2019 as the National Guidelines on Responsible Business Conduct (NGRBC), which established nine principles covering ethics, product responsibility, employee well-being, stakeholder engagement, human rights, environmental protection, public policy, inclusive growth, and customer value [9].

A landmark reform was introduced through the Companies Act, 2013, which made Corporate Social Responsibility (CSR) expenditure mandatory for eligible companies. Section 135 requires qualifying



companies to allocate at least 2% of their average net profits towards CSR activities, thereby institutionalizing corporate participation in social and environmental development [10].

The Securities and Exchange Board of India (SEBI) further strengthened ESG reporting by replacing the Business Responsibility Report (BRR) with the Business Responsibility and Sustainability Report (BRSR). Initially mandatory for the top 1,000 listed companies by market capitalization, BRSR significantly expanded sustainability disclosures by incorporating quantitative and qualitative ESG indicators. More recently, SEBI introduced BRSR Core, which identifies a set of essential ESG indicators requiring external assurance and gradually extends disclosure requirements to value-chain partners, improving transparency and comparability across industries [11,12].

Financial institutions have also begun integrating ESG considerations into lending and investment decisions. The Reserve Bank of India has encouraged banks to strengthen climate-risk management, sustainable finance practices, and environmental risk disclosure. Simultaneously, green bonds, sustainability-linked loans, and responsible investment funds have accelerated ESG adoption within India's financial sector [13]. The evolution of ESG regulations in India reflects a gradual transition from voluntary sustainability initiatives to mandatory disclosure and governance frameworks. The major regulatory milestones that have shaped the country's ESG ecosystem are summarized in Table 1.

Table 1. Evolution of ESG Regulations in India

Year	Initiative	Major Contribution
2011	National Voluntary Guidelines (NVGs)	Introduced responsible business principles
2013	Companies Act (Section 135)	Mandatory Corporate Social Responsibility
2015	Business Responsibility Report (BRR) strengthened	Sustainability reporting by listed companies
2019	National Guidelines on Responsible Business Conduct (NGRBC)	Nine principles of responsible business
2021	Business Responsibility and Sustainability Report (BRSR)	Comprehensive ESG reporting framework
2023	BRSR Core	Mandatory assurance and key ESG indicators
2024–2025	Value-chain ESG disclosures	Expanded ESG reporting across supply chains

3.2 Major ESG Regulatory Frameworks in India

India's ESG ecosystem is supported by multiple regulatory instruments that collectively improve sustainability performance and corporate accountability.

Companies Act, 2013

The Companies Act institutionalized Corporate Social Responsibility by requiring eligible organizations to invest in activities related to education, healthcare, environmental conservation, rural development, gender



equality, and community welfare. CSR has become an important mechanism through which businesses contribute to sustainable development while strengthening stakeholder relationships [10].

National Guidelines on Responsible Business Conduct (NGRBC)

The NGRBC provides the ethical foundation for responsible business conduct in India. The framework encourages organizations to integrate sustainability into business strategy through nine principles covering governance, employee well-being, environmental protection, human rights, responsible supply chains, customer value, and inclusive growth [9].

Business Responsibility and Sustainability Report (BRSR)

BRSR represents India's primary ESG disclosure framework. Unlike earlier sustainability reports, BRSR requires organizations to disclose detailed information regarding environmental performance, greenhouse gas emissions, water consumption, waste management, employee diversity, occupational health and safety, governance practices, supply chain sustainability, and stakeholder engagement. The framework enables investors to compare ESG performance across companies using standardized indicators [11].

BRSR Core

Recognizing inconsistencies in voluntary disclosures, SEBI introduced BRSR Core to improve disclosure quality through mandatory assurance of selected key performance indicators. Independent verification enhances the reliability of sustainability reports and reduces opportunities for misleading disclosures or greenwashing [12].

Green Finance and Sustainable Investment

India has increasingly promoted green finance through green bonds, ESG mutual funds, sustainable investment frameworks, and climate finance initiatives. These financial instruments encourage organizations to invest in renewable energy, energy efficiency, pollution control, and sustainable infrastructure while improving investor confidence in environmentally responsible businesses [13]. The implementation of ESG in India is supported by multiple regulatory institutions and policy frameworks that collectively promote responsible business conduct, sustainability reporting, corporate governance, and green finance. The major ESG regulatory frameworks and their key provisions are presented in Table 2.

Table 2. Major ESG Regulatory Frameworks in India

Framework	Regulatory Body	Primary Focus
Companies Act, 2013 (CSR)	MCA	Social responsibility and community development
NGRBC	MCA	Responsible business conduct
BRSR	SEBI	ESG reporting and disclosure
BRSR Core	SEBI	ESG assurance and standardized indicators
Green Finance Initiatives	RBI/SEBI	Sustainable investment and climate finance

4. Impact of ESG Implementation in India



The adoption of ESG principles has significantly influenced corporate sustainability practices across Indian industries. Environmental performance has improved through cleaner technologies and efficient resource utilization, while social initiatives have strengthened employee welfare and stakeholder engagement. Governance reforms have enhanced corporate transparency, accountability, and investor confidence.

4.1 Environmental Impact

The environmental dimension of ESG has encouraged industries to reduce greenhouse gas emissions, improve energy efficiency, minimize waste generation, conserve water resources, and adopt renewable energy technologies. Organizations increasingly integrate environmental management systems into their operations to comply with regulatory requirements while improving operational efficiency [14].

Manufacturing industries have implemented cleaner production technologies, energy-efficient equipment, pollution-control systems, and circular economy practices to reduce environmental impacts. The integration of Industry 4.0 technologies, artificial intelligence, and digital monitoring systems has further improved environmental performance by optimizing resource utilization and minimizing waste generation [15,16].

Renewable energy adoption has accelerated under ESG-driven investment strategies. Solar photovoltaic systems, wind energy, biomass utilization, and energy-efficient manufacturing processes have reduced dependence on fossil fuels while lowering greenhouse gas emissions. Studies have demonstrated that renewable energy integration improves environmental performance and contributes significantly to long-term sustainability [17,18].

Water conservation has become another important outcome of ESG implementation. Industries increasingly adopt rainwater harvesting, wastewater recycling, zero-liquid discharge systems, and water-efficient manufacturing technologies to address growing water scarcity. These initiatives not only reduce freshwater consumption but also improve regulatory compliance and operational resilience [19].

Sustainable manufacturing practices have further strengthened environmental performance. The adoption of green manufacturing, environmental management systems, life-cycle assessment, and cleaner production technologies has enabled organizations to reduce pollution, conserve resources, and improve environmental sustainability. Recent research has demonstrated the effectiveness of artificial intelligence, Industry 4.0 technologies, Six Sigma methodologies, renewable energy integration, and environmental risk assessment frameworks in enhancing sustainable manufacturing performance [15–20].

At the same time, environmental accountability requires reliable disclosure mechanisms. Patrykin and Vasyukova [21] argued that inconsistencies in ESG ratings and insufficient reporting of indirect emissions continue to create uncertainty regarding actual environmental performance. Their review emphasized that stronger assurance mechanisms, harmonized reporting standards, and transparent disclosure practices are essential to improve the credibility of ESG reporting and reduce greenwashing. The adoption of ESG principles has generated significant improvements in environmental sustainability, social responsibility, and corporate governance across various sectors. A summary of the major ESG initiatives and their corresponding outcomes is presented in Table 3

Table 3. Major Environmental, Social and Governance Benefits of ESG Implementation

ESG Dimension	Major Initiatives	Key Outcomes
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Environmental	Renewable energy, pollution control, resource efficiency, circular economy	Reduced emissions, lower resource consumption, improved environmental performance
Social	CSR, employee welfare, diversity, health and safety, community development	Better stakeholder engagement, improved employee satisfaction, enhanced corporate reputation
Governance	Board independence, transparency, ethics, risk management, ESG reporting	Higher investor confidence, improved accountability, better regulatory compliance

4.2 Social Impact

Beyond environmental protection, ESG has significantly improved organizational commitment towards social responsibility. Businesses increasingly recognize that employee well-being, diversity, human rights, occupational health and safety, customer satisfaction, and community engagement directly influence organizational performance and long-term competitiveness.

Corporate Social Responsibility initiatives mandated under the Companies Act have substantially increased corporate investment in education, healthcare, sanitation, skill development, women empowerment, environmental conservation, and rural infrastructure. These initiatives contribute directly to inclusive socio-economic development while strengthening relationships between industries and local communities [10].

Organizations have also strengthened workplace safety by implementing occupational health management systems, employee training programmes, accident prevention strategies, and employee wellness initiatives. Diversity and inclusion policies have increased female workforce participation and promoted equal employment opportunities. Responsible supply chain management and stakeholder engagement further support ethical business practices and sustainable development.

Digital transformation also supports social sustainability. Patel and Patyrykin [22] reported that automation technologies improve organizational transparency, communication, decision-making efficiency, and stakeholder responsiveness, indirectly strengthening governance quality and employee engagement. Likewise, recent studies indicate that artificial intelligence supports workforce safety, predictive maintenance, environmental monitoring, and efficient resource management, thereby contributing to broader ESG objectives [16].

4.3 Governance Impact

Corporate governance represents the foundation of the ESG framework because it ensures that organizations operate ethically, transparently, and responsibly while balancing the interests of shareholders and other stakeholders. Strong governance systems enhance investor confidence, reduce operational risks, improve regulatory compliance, and support long-term organizational sustainability [3,6].

In India, governance reforms have been strengthened through SEBI's listing regulations, the Companies Act, 2013, and the BRSR framework. These initiatives encourage organizations to improve board independence, establish effective audit committees, strengthen enterprise risk management, disclose sustainability information, and maintain ethical business practices. Independent directors, whistle-blower mechanisms, anti-corruption policies, and transparent disclosure practices have become increasingly important components of corporate governance.



ESG reporting has also improved board-level accountability. Many organizations have established dedicated sustainability or ESG committees responsible for monitoring environmental performance, climate-related risks, stakeholder engagement, and regulatory compliance. Integrating ESG performance into strategic planning enables companies to identify long-term risks associated with climate change, supply chain disruptions, regulatory changes, and stakeholder expectations.

Responsible governance also strengthens investor confidence. Investors increasingly evaluate ESG disclosures alongside financial performance while making investment decisions. Companies demonstrating higher governance standards generally experience better access to capital, improved corporate reputation, lower regulatory risks, and enhanced market valuation [7].

However, governance challenges remain. Variations in ESG reporting methodologies, inconsistent sustainability ratings, and limited assurance of disclosed information reduce comparability between companies. Greenwashing, where organizations exaggerate sustainability achievements without sufficient evidence, continues to undermine stakeholder confidence. Patyrykin and Vasyukova [21] emphasized that harmonized ESG standards and independent verification are essential for improving transparency and reducing misleading sustainability disclosures.

Recent technological developments provide new opportunities for strengthening governance. Artificial intelligence, blockchain, cloud-based reporting platforms, and advanced data analytics can improve ESG data quality, automate compliance monitoring, enhance supply chain transparency, and strengthen corporate accountability. AI-driven sustainability analytics further enable organizations to identify governance risks, improve decision-making, and support evidence-based sustainability management [15,16].

5. Challenges, Opportunities and Future Directions

Although ESG implementation has expanded considerably across India, several challenges continue to limit its effectiveness.

One of the major challenges is the absence of globally standardized ESG reporting methodologies. Different ESG rating agencies frequently assign significantly different ratings to the same organization because they apply different assessment criteria and weighting systems. Such inconsistencies create uncertainty for investors and reduce the comparability of ESG performance across industries [21].

Greenwashing represents another major concern. Some organizations selectively disclose positive sustainability achievements while omitting material environmental or social impacts. Limited external assurance and inconsistent reporting standards make it difficult for stakeholders to verify the credibility of ESG disclosures. Strengthening mandatory assurance requirements under BRSR Core is expected to reduce this challenge.

Small and medium enterprises (SMEs) face additional barriers due to limited financial resources, inadequate technical expertise, and insufficient awareness regarding ESG reporting requirements. Although large listed companies have increasingly adopted ESG frameworks, extending sustainability practices throughout supply chains remains an ongoing challenge.

Data availability and quality also require improvement. Reliable measurement of Scope 3 emissions, biodiversity impacts, social indicators, and governance performance remains difficult for many organizations. Improved digital monitoring systems and standardized reporting protocols will be essential for generating high-quality ESG information.



Despite these challenges, several opportunities are expected to accelerate ESG implementation in India.

Artificial intelligence has emerged as a powerful tool for improving sustainability reporting, environmental monitoring, predictive maintenance, climate-risk assessment, and resource optimization. AI-supported decision-making enables organizations to identify sustainability risks more efficiently while improving operational performance [15]. Similarly, Industry 4.0 technologies, digital twins, Internet of Things (IoT), and big data analytics provide real-time monitoring of environmental and operational performance, supporting continuous ESG improvement [16].

Blockchain technology offers opportunities to improve transparency and traceability within supply chains by providing tamper-resistant records of environmental and social performance. Such systems may significantly reduce greenwashing while strengthening stakeholder trust.

Green finance is expected to become another important driver of ESG adoption. Increasing availability of green bonds, sustainability-linked loans, climate finance, and responsible investment funds will encourage organizations to integrate ESG principles into long-term business strategies. Although ESG implementation has delivered substantial benefits, organizations continue to face several challenges related to reporting, standardization, and compliance, while technological advancements and policy reforms provide new opportunities for future development. The major challenges, opportunities, and future research directions are summarized in Table 4.

Table 4. Challenges, Opportunities and Future Research Directions for ESG in India

Challenges	Opportunities	Future Research Directions
Greenwashing	Artificial intelligence for ESG reporting	AI-enabled ESG performance evaluation
Inconsistent ESG ratings	Blockchain-based disclosure	Standardized ESG metrics
Limited assurance	Green finance and sustainable investment	Sector-specific ESG assessment models
High compliance costs	Digital sustainability platforms	ESG adoption in SMEs
Data quality issues	Industry 4.0 integration	Climate-risk modelling and value-chain ESG

6. Discussion

The review demonstrates that India's ESG framework has evolved from voluntary corporate responsibility initiatives into one of the most comprehensive sustainability reporting systems among developing economies. Regulatory interventions by the Ministry of Corporate Affairs and the Securities and Exchange Board of India have substantially improved corporate accountability through mandatory sustainability disclosures, Corporate Social Responsibility requirements, and the Business Responsibility and Sustainability Report framework.

Environmental improvements resulting from ESG implementation include increased renewable energy adoption, improved energy efficiency, reduced emissions, enhanced waste management, and greater resource conservation. Social benefits include improved occupational health and safety, employee welfare, diversity, stakeholder engagement, and community development through CSR initiatives. Governance reforms have strengthened transparency, board accountability, enterprise risk management, and investor confidence.



Nevertheless, achieving the full potential of ESG requires continued regulatory refinement. Standardization of ESG metrics, greater disclosure consistency, independent assurance, digital monitoring systems, and stronger stakeholder participation remain important priorities. Integration of artificial intelligence, advanced analytics, and digital technologies is expected to significantly improve ESG reporting accuracy and sustainability decision-making.

The review also highlights that ESG should not be viewed merely as a compliance requirement but rather as a strategic management framework supporting innovation, operational excellence, sustainable investment, and long-term corporate resilience. Organizations integrating ESG into core business strategy are likely to achieve competitive advantages while contributing to national sustainability goals and global climate commitments.

7. Conclusion

Environmental, Social, and Governance has become a fundamental component of sustainable business management in India. Regulatory initiatives including the Companies Act, 2013, National Guidelines on Responsible Business Conduct, Business Responsibility and Sustainability Report, and BRSR Core have significantly strengthened sustainability reporting and corporate accountability.

The review indicates that ESG implementation has generated measurable environmental, social, and governance benefits by encouraging cleaner production, renewable energy adoption, responsible resource utilization, employee welfare, ethical governance, and transparent business practices. At the same time, challenges such as inconsistent ESG ratings, greenwashing, limited standardization, compliance costs, and inadequate assurance continue to influence effective implementation.

Future progress will depend on stronger regulatory harmonization, wider adoption of digital technologies, integration of artificial intelligence into sustainability management, improved disclosure quality, and expansion of ESG practices throughout organizational value chains. Continued collaboration among regulators, industries, investors, researchers, and policymakers will be essential for ensuring that ESG contributes effectively to India's long-term environmental sustainability, social development, and economic growth.

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