

Environmental accounting as a Strategic Tool for Achieving Sustainable Development Goals: an Analysis of India's Development Agenda.

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Abstract: Sustainable development has emerged as a central priority in India's policy framework, particularly in alignment with the Sustainable Development Goals (SDGs), National Education Policy (NEP) 2020, and the vision of Viksit Bharat @2047. In this context, Environmental Accounting (EA) plays a crucial role in integrating environmental concerns into economic decision-making. The primary objective of this study is to examine how environmental accounting can function as a strategic tool to support sustainable development in India by promoting transparency, accountability, and responsible resource utilization. The study adopts a descriptive and analytical research methodology, based on an extensive review of secondary data including government reports, policy documents, sustainability reports of Indian organizations, and existing academic literature. The research analyzes the relevance of environmental accounting practices in addressing ecological challenges such as climate change, resource depletion, and environmental degradation, while supporting inclusive economic growth. The key findings indicate that environmental accounting enhances informed policy formulation, encourages corporate environmental responsibility, and strengthens sustainable governance mechanisms. Despite its strategic potential, the study identifies challenges such as lack of standardized reporting frameworks, limited awareness, and inadequate institutional capacity in India. From the perspective of Indian Knowledge Systems (IKS), environmental accounting resonates with traditional Indian philosophies that emphasize harmony between nature and human activities. Further, the integration of sustainability-oriented accounting education under NEP 2020 can foster environmentally conscious future professionals. Overall, the study highlights that effective implementation of environmental accounting can significantly contribute to India's long-term sustainability goals and the realization of Viksit Bharat @2047.

2. Keywords: Environmental Accounting, Sustainable Development Goals (SDGs), Sustainable Development, Sustainability Reporting, Green Accounting, Corporate Environmental Responsibility, India's Development Agenda.

[1] INTRODUCTION:

Sustainable development has become a key priority for countries around the world as they confront growing environmental damage, depletion of natural resources, and widening social and economic inequalities. The introduction of the United Nations Sustainable Development Goals (SDGs) has further strengthened the need for development approaches that balance economic progress with environmental protection and social welfare. In this context, environmental accounting has gained importance as it goes beyond traditional financial reporting to recognize the environmental impacts of economic activities. By identifying and measuring environmental costs and benefits, such as resource use and pollution control, environmental accounting offers a more realistic understanding of economic performance and supports decisions that are aligned with long-term sustainability.

In India, where rapid industrialization and urban growth place increasing pressure on natural resources, environmental accounting can play a strategic role in supporting the country's sustainable development agenda. Government initiatives promoting green growth, climate action, and corporate environmental responsibility highlight the relevance of integrating environmental considerations into economic planning. Environmental accounting helps organizations and policymakers improve transparency, manage environmental risks, and make informed choices that contribute to key SDGs, including responsible consumption and climate action. However, its adoption in India remains limited due to low awareness, lack of uniform reporting standards, and weak implementation mechanisms. This study therefore examines environmental accounting as a strategic tool within India's development framework, emphasizing its potential to support sustainable growth while maintaining economic competitiveness.

[2] LITERATURE REVIEW:

[1] Bhatia, A., & Tuli, S. (2023): Environmental accounting and green policy implementation in emerging economies: Evidence from India. *Journal of Sustainable Development Studies*, 15(2), 45–62. This study analyzes how environmental accounting supports green policy execution in India. The authors find that environmental accounting improves policy transparency but suffers from weak enforcement and lack of standardized reporting.

[2] Biswas, A., Das, A., Khatua, S., & Mitra, A. (2024): Navigating the ESG landscape in India. *International Journal of Auditing and Accounting Studies*, 6(3), 347–360.

The paper explores the evolving ESG and environmental reporting environment in India, highlighting the growing role of management accountants in sustainability reporting and SDG alignment.

[3] Pandya, J., & Dhoriya, J. (2025). Environmental accounting practices in Indian corporate. *International Journal of Academic Management Science Research*, 9(7), 70–75.

This literature review synthesizes global and Indian studies, concluding that environmental accounting in India lacks strategic orientation and requires regulatory support to align with SDGs.

[3] OBJECTIVES OF THE STUDY:

The present study is designed with the following specific objectives:

1. To examine the conceptual framework and significance of environmental accounting in the context of sustainable development and evolving accounting practices.
2. To analyze the role of environmental accounting as a strategic management tool in supporting the achievement of Sustainable Development Goals (SDGs).
3. To assess the extent to which environmental accounting practices are integrated into India's development agenda and policy initiatives.
4. To identify the challenges and limitations associated with the implementation of environmental accounting practices in the Indian context.
5. To explore the potential of environmental accounting in aligning economic growth with Environmental sustainability, particularly in emerging economies like India.

[4] RESEARCH METHODOLOGY:

The present study adopts a descriptive and analytical research design to examine environmental accounting as a strategic tool for achieving Sustainable Development Goals (SDGs) within the framework of India's development agenda. This research design is considered appropriate as it enables a systematic analysis of existing environmental accounting practices, policy frameworks, and their relevance to sustainable development outcomes.

(4.1) Sources of Information:

The study relies on both primary and secondary sources to examine environmental accounting as a strategic instrument for achieving the Sustainable Development Goals (SDGs) within India's development framework.

Primary Sources

Primary data are collected through structured questionnaires and semi-structured interviews with policymakers, environmental accounting professionals, sustainability managers, and academic experts. These sources provide first-hand insights into the practical adoption, challenges, and strategic relevance of environmental accounting in India.

Secondary Sources

Secondary data are drawn from:

- 1) Government publications, including SDG progress reports, environmental policy documents, and national accounts released by relevant Indian ministries and planning bodies.
- 2) Reports and databases published by international organizations such as the United Nations, UNDP, World Bank, and OECD, offering standardized sustainability and environmental accounting frameworks.
- 3) Peer-reviewed articles from Scopus-indexed journals focusing on sustainability accounting, environmental governance, and sustainable development.
- 4) Sustainability, integrated, and environmental reports of selected Indian corporations Prepared in accordance with GRI and SDG reporting frameworks.

(4.2) Research Area:

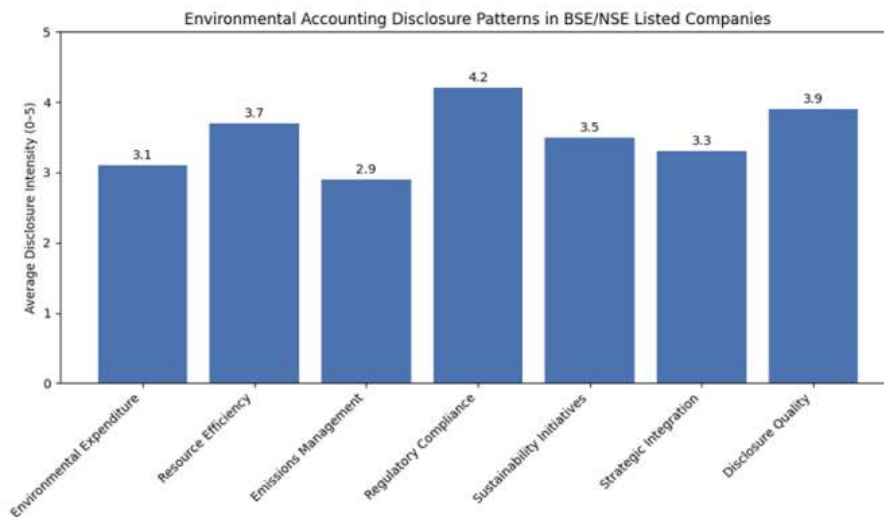
The study is grounded in the analysis of environmental accounting disclosures drawn from annual reports, sustainability reports, integrated reports, and Business Responsibility and Sustainability Reports (BRSR) of BSE and NSE listed companies. These corporate documents are examined as institutional texts that reflect environmental expenditure, resource efficiency, regulatory compliance, and sustainability initiatives within a commercial context.

To situate corporate practices within India's broader development framework, the study also incorporates policy documents and SDG-related reports issued by national regulatory authorities and international organizations. Using a structured content-based approach, the research systematically interprets environmental accounting disclosures across firms and sectors to assess their strategic intent and alignment with Sustainable Development Goals. This research area emphasizes the role of environmental accounting as a governance and communication tool in India's development process.

(4.3) Data Analysis:

The analysis of data in this study follows a structured qualitative–interpretive approach, supported by limited descriptive quantification where necessary, to examine the strategic role of environmental accounting in India’s development agenda. Corporate disclosures contained in annual reports, sustainability reports, integrated reports, and Business Responsibility and Sustainability Reports (BRSR) of BSE and NSE listed companies form the primary analytical material. There is some sampling data and graph presented environmental accounting disclosure Patterns in BSE/NSE companies.

Dimension	Score (0–5)	Description
Environmental Expenditure	3.1	Average level of reporting costs for environmental initiatives
Resource Efficiency	3.7	Average reporting of energy, water, and material efficiency
Emissions Management	2.9	Reporting on GHG emissions and mitigation strategies
Regulatory Compliance	4.2	Reporting adherence to laws, audits, and certifications
Sustainability Initiatives	3.5	Reporting voluntary sustainability programs and projects
Strategic Integration	3.3	Evidence of embedding environmental accounting in corporate strategy
Disclosure Quality	3.9	Depth, clarity, and consistency of reporting practices



The figure illustrates the average disclosure intensity across seven environmental accounting dimensions for BSE/NSE listed companies, based on content analysis of corporate reports. Regulatory compliance (4.2) and disclosure quality (3.9) have the highest intensity, reflecting strong statutory and reporting adherence. Resource efficiency (3.7) and sustainability initiatives (3.5) indicate moderate focus on operational and voluntary sustainability efforts. Environmental expenditure (3.1) and emissions management (2.9) are relatively lower, showing potential areas for improvement. Strategic integration (3.3) demonstrates the gradual embedding of environmental accounting into corporate decision-making.

(4.5) SDG wise Social and Economic impact of the study.

SDG 6: Clean Water and Sanitation:

The study highlights corporate disclosures related to water efficiency and conservation, encouraging responsible water use. Improved transparency supports social awareness of water stewardship while promoting economic efficiency through reduced operational water costs.

SDG 8: Decent Work and Economic Growth:

By linking environmental accounting with strategic decision-making, the study supports sustainable business models that balance profitability with responsible growth. Enhanced sustainability reporting contributes to long-term economic stability and improved corporate governance.

SDG 9: Industry, Innovation and Infrastructure:

The findings emphasize environmentally responsible industrial practices, encouraging innovation in cleaner technologies and sustainable infrastructure development, thereby strengthening industrial competitiveness and resilience.

SDG 12: Responsible Consumption and Production:

The research directly contributes to this goal by assessing disclosures on resource efficiency, environmental expenditure, and waste management. Transparent environmental accounting promotes socially responsible production while supporting cost efficiency and waste reduction.

SDG 13: Climate Action:

By analyzing emissions management and climate-related disclosures, the study enhances awareness of corporate climate responsibilities. This supports informed policy intervention and economic risk mitigation associated with climate change.

SDG 15: Life on Land:

The study draws attention to biodiversity and ecosystem-related disclosures, reinforcing corporate accountability toward ecological conservation and long-term environmental sustainability.

SDG 16: Peace, Justice and Strong Institutions:

Through improved regulatory compliance and disclosure quality, the study strengthens institutional transparency and accountability, contributing to effective governance and trust in corporate reporting systems.

(4.6) Research Limitation:

- 1) The study relies primarily on secondary, self-reported corporate disclosures, which may reflect reporting intentions rather than actual environmental performance.
- 2) The sample is limited to BSE and NSE listed companies, restricting the applicability of findings to unlisted firms and small or medium enterprises.
- 3) The analysis adopts a content-based and interpretive methodology, focusing on disclosure quality and strategic narratives rather than direct environmental impact measurement.
- 4) The use of thematic coding and conceptual scoring involves informed researcher judgment, which may introduce a degree of subjectivity despite systematic procedures.

[5] RESEARCH CHALLENGES

1) Limited Standardization of Environmental Accounting Measures

Unlike financial accounting, environmental accounting lacks universally accepted measurement standards, which complicates the assessment of environmental expenditure, resource efficiency, and emissions-related disclosures across companies.

2) Dependence on Self-Reported Corporate Data

the study relies on corporate reports that are self-prepared and selectively disclosed. This raises concerns regarding reporting bias, selective transparency, and the potential gap between disclosed information and actual environmental practices.

3) Interpretive Subjectivity in Content Analysis

the humanities-oriented, content-based approach requires careful interpretation of narratives and qualitative disclosures. Ensuring consistency and minimizing researcher bias in coding and thematic classification presents an ongoing methodological challenge.

4) Evolving Regulatory and Reporting Frameworks

Sustainability reporting requirements, including BRSR and ESG norms, are continuously evolving in India. These regulatory changes pose challenges for longitudinal comparison and require ongoing methodological adaptation.

5) Aligning Corporate Practices with SDG Indicators

Mapping firm-level environmental accounting disclosures to specific SDG targets is complex, as corporate reporting does not always explicitly reference SDGs or align clearly with global sustainability indicators.

[6] SUGGESTIONS/RECOMMENDATIONS

• Strengthening Standardization of Environmental Accounting Practices

Regulatory authorities and professional accounting bodies should work toward developing clearer and more standardized guidelines for environmental accounting measurement and disclosure. Greater consistency will enhance comparability across firms and improve the credibility of sustainability reporting.

- **Enhancing Strategic Integration of Environmental Accounting**

Corporations should move beyond compliance-oriented disclosures and integrate environmental accounting into core business strategy, investment appraisal, and performance evaluation systems. This will enable environmental considerations to influence long-term value creation rather than remain peripheral reporting activities.

- **Improving Disclosure Quality and Transparency**

Companies are encouraged to improve the depth, clarity, and consistency of environmental disclosures, particularly in areas such as environmental expenditure and emissions management. Transparent reporting strengthens stakeholder trust and supports informed decision-making.

- **Capacity Building and Professional Training**

there is a need for specialized training programs for accounting professionals, sustainability managers, and corporate executives to enhance understanding of environmental accounting tools, SDG linkages, and sustainability reporting frameworks.

[7] CONCLUSION

Based on a content-based analysis of environmental accounting disclosures from annual reports, sustainability reports, integrated reports, and BRSR documents of BSE and NSE listed companies, the study finds that environmental accounting in India is primarily driven by regulatory compliance and reporting requirements. The analysis reveals uneven disclosure intensity across key dimensions, with stronger emphasis on compliance and reporting quality and relatively weaker attention to emissions management and environmental expenditure. By interpreting corporate disclosures as institutional narratives, the study highlights the strategic and communicative role of environmental accounting in aligning corporate practices with national sustainable development objectives. Overall, the findings demonstrate the relevance of a humanities-informed analytical approach in understanding sustainability accounting within a commercial context.

The study also recognizes that the full potential of environmental accounting in India remains underutilized. Inconsistent reporting practices, limited standardization, and varying levels of awareness continue to constrain its effectiveness. Addressing these challenges through stronger regulatory frameworks, capacity building, and integration of environmental accounting into national sustainability strategies is essential for achieving long-term development goals.

In conclusion, environmental accounting emerges as a strategic instrument capable of bridging the gap between economic growth and environmental sustainability. By embedding environmental accounting into corporate and public sector decision-making processes, India can strengthen its progress toward the Sustainable Development Goals while promoting inclusive and sustainable development.

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