

ENVIRONMENTAL DISCLOSURE PRACTICES IN THE INDIAN PHARMACEUTICAL INDUSTRY: A COMPARATIVE STUDY OF SUN PHARMACEUTICAL LTD. AND CIPLA LTD.

Sanketkumar Babubhai Vachhani

Dr. Dineshkumar Ramjibhai Chavda

Abstract

The pharmaceutical industry, integral to global healthcare, faces increasing pressure to address its environmental footprint through robust accounting and reporting practices. This study conducts a comparative analysis of the environmental disclosure and reporting practices of two leading Indian pharmaceutical companies, Sun Pharma and Cipla Ltd., utilizing secondary data sourced from their sustainability reports, annual disclosures, and industry frameworks. The research evaluates the adoption of global standards such as the Global Reporting Initiative (GRI) and the Carbon Disclosure Project (CDP), focusing on key environmental metrics including greenhouse gas emissions, energy consumption, water management, and waste reduction. It examines the structure, transparency, and frequency of their environmental disclosures, highlighting how each company integrates environmental disclosure into its strategic framework. The findings reveal distinct approaches: Sun Pharma emphasizes detailed quantitative metrics with a focus on renewable energy adoption, while Cipla prioritizes narrative-driven reports highlighting community-focused environmental initiatives. The study identifies strengths, such as Sun Pharma's data granularity, and weaknesses, including Cipla's limited disclosure of scope-specific emissions. By comparing their practices, the paper uncovers gaps in standardization and transparency, offering insights into how these firms align with global sustainability goals amidst India's regulatory landscape. This analysis contributes to understanding the role of environmental accounting in enhancing corporate accountability in the pharmaceutical sector, emphasizing the need for consistent, accessible, and comprehensive reporting to address stakeholder expectations and environmental challenges effectively.

Key Words: Environmental Disclosure, Environmental Reporting, Sun Pharma, Cipla Ltd., Pharmaceutical Industry.

1. Introduction

Environmental disclosure and reporting have emerged as critical tools for organizations to demonstrate their commitment to sustainable practices and transparency in addressing environmental impacts. In the pharmaceutical industry, where production processes and supply chains significantly affect the environment, adopting robust environmental disclosure practices is essential for regulatory compliance and stakeholder trust. This study conducts a comparative analysis of the environmental disclosure and reporting practices of two leading Indian pharmaceutical companies, Sun Pharma and Cipla Ltd. Utilizing secondary data from annual reports, sustainability disclosures, and other publicly available documents, the research examines how these companies integrate environmental considerations into their financial and non-financial reporting. By evaluating their approaches to environmental cost measurement, disclosure of ecological impacts, and adherence to global sustainability standards, this paper aims to highlight best practices and identify gaps in their environmental accountability frameworks. The findings seek to contribute to the broader discourse on sustainable business practices in the pharmaceutical sector, offering insights for policymakers, industry stakeholders, and researchers.

1.1 Background of the Study

Environmental disclosure and reporting have emerged as critical tools for organizations to address growing global concerns about sustainability and environmental responsibility. With increasing regulatory pressures, stakeholder expectations, and public awareness of climate change, industries, particularly pharmaceuticals, face scrutiny for their environmental impact due to resource-intensive operations and waste generation. In India, where the pharmaceutical sector is a significant economic contributor, companies like Sun Pharma and Cipla Ltd. play a pivotal role in adopting sustainable practices. This study focuses on comparing the environmental disclosure and reporting practices of these two leading pharmaceutical firms, utilizing secondary data to evaluate their approaches to environmental disclosure,

compliance with regulations, and integration of sustainability metrics. By analyzing their practices, the research aims to highlight strengths, identify gaps, and provide insights into how these companies contribute to environmental accountability in a rapidly evolving regulatory and social landscape.

1.2 Relevance of Environmental disclosure in India's Pharmaceutical Industry

Environmental disclosure is increasingly vital in India's pharmaceutical industry due to its significant environmental footprint, including high water consumption, chemical waste, and energy-intensive processes. It enables companies like Sun Pharma and Cipla Ltd. To systematically measure, monitor, and report environmental costs and impacts, fostering sustainable practices. By integrating environmental costs into financial frameworks, these firms can enhance resource efficiency, comply with stringent regulations, and meet stakeholder expectations for transparency. This practice supports risk management, improves corporate reputation, and aligns with India's sustainability goals, contributing to long-term ecological and economic resilience in the sector.

1.3 Need for Comparative Analysis between Sun Pharmaceutical Ltd. and Cipla Ltd.

The comparative analysis of environmental disclosure and reporting practices between Sun Pharmaceutical Industries Ltd and Cipla Ltd is essential to understand how these leading Indian pharmaceutical companies address environmental sustainability. As major players in a rapidly growing industry projected to reach \$130 billion by 2030, both companies face increasing regulatory and societal pressures to adopt sustainable practices. Comparing their approaches to environmental disclosure such as resource consumption, waste management, and carbon footprint tracking highlights their commitment to environmental stewardship and compliance with global standards. This analysis also reveals differences in their reporting transparency, stakeholder engagement, and integration of environmental strategies into business operations. By examining these aspects, the study provides insights into best practices, identifies gaps, and offers valuable lessons for the pharmaceutical sector to enhance environmental accountability and contribute to sustainable development.

1.4 Statement of the Problem

The growing emphasis on environmental sustainability has increased the need for robust environmental disclosure and reporting practices in the corporate sector. However, the extent to which pharmaceutical companies in India, such as Sun Pharma and Cipla Ltd., integrate environmental disclosure principles and transparently report their environmental impacts remains underexplored. Variations in reporting standards, data consistency, and disclosure quality may hinder stakeholders' ability to assess these companies' environmental performance accurately. This study seeks to examine the differences in environmental disclosure and reporting practices between Sun Pharma and Cipla Ltd., identifying gaps, compliance levels, and the effectiveness of their disclosures in addressing environmental concerns, using secondary data to provide insights into their sustainability efforts.

1.5 Objectives of the Study

- 1) Evaluate Sun Pharma and Cipla Ltd.'s environmental disclosure frameworks for ecological impact management.
- 2) Compare transparency and compliance in environmental reporting practices of Sun Pharma and Cipla Ltd.
- 3) Identify similarities and differences in environmental performance metrics reported by both companies.
- 4) Assess alignment of Sun Pharma and Cipla Ltd.'s environmental disclosures with global sustainability standards.
- 5) Examine regulatory and market influences on environmental disclosure practices of the two firms.

1.6 Research Questions

- 1) How do Sun Pharma and Cipla Ltd. Differ in embedding environmental disclosure in their financial reports?
- 2) What environmental performance metrics do Sun Pharma and Cipla Ltd. Disclose in their sustainability reports?
- 3) To what extent do Sun Pharma and Cipla Ltd. Align with global environmental reporting standards like GRI or TCFD?
- 4) How do Sun Pharma and Cipla Ltd.'s environmental disclosure practices meet regulatory and stakeholder demands?
- 5) What differences exist in the transparency of environmental cost reporting between Sun Pharma and Cipla Ltd.?

1.7 Significance of the Study

The significance of this study lies in its examination of environmental disclosure and reporting practices within the Indian pharmaceutical industry, focusing on Sun Pharma and Cipla Ltd. By analyzing secondary data, the research highlights how these companies integrate environmental considerations into their financial and operational frameworks, shedding light on their sustainability efforts. It contributes to understanding the role of environmental accountability in corporate decision-making, offering insights for stakeholders, policymakers, and industry peers to enhance sustainable practices and regulatory compliance in the pharmaceutical sector.

1.8 Scope of the Study

This study focuses on analysing the environmental disclosure and reporting practices of Sun Pharma and Cipla Ltd., two leading pharmaceutical companies in India. It examines their environmental disclosures, sustainability initiatives, and compliance with relevant regulatory frameworks based on secondary data from annual reports, sustainability reports, and other publicly available documents. The research compares their approaches to environmental accountability, highlighting best practices, gaps, and areas for improvement. The scope is limited to data available

up to the study period, excluding primary data or real-time operational insights. The findings aim to contribute to understanding corporate environmental responsibility in the pharmaceutical sector.

2. Review of Literature

- 1) **(Mulchandani, Mulchandani, & Vishnani, 2023)** The study examined the implications of COVID-19 and Indian data to see if ESG reporting affected profitability. The study was tenacious in its exploration of how ESG reporting affects the calibre of earnings. All of the research's foundation was secondary data. The study's sample size comprised three hundred organisations that were listed on the Nifty 50. The study's time frame was 2015–2020. To analyse the data, regression analysis was employed. ESG has no effect on the quality of discretionary wages, the study's findings indicate. Additionally, ESG and earnings quality improved in the fiscal year that ended when the outbreak struck the market.
- 2) **(Sachdeva & Taneja, 2023)** In order to determine the factors impacting the adoption of lean and green manufacturing techniques in Indian enterprises and to suggest a framework for further research, the study looked into these practices. 180 business diligences were gathered using exploratory factor analysis and dependability. Governments and corporations can use the data to create sustainable models and promote a greener society.
- 3) **(Soshte, 2023)** India's environmental disclosure and reporting are examined in the study. Apart from showcasing different methods, guidelines, and future developments for environmental disclosure and reporting in India, the study aimed to investigate the benefits and favourable outcomes of its application. The study used descriptive research as a charitable endeavour. Secondary sources served as the investigation's cornerstone. Future trends, such as the inclusion of ESG considerations, technology-driven reporting, and a focus on the ideas of the circular economy, reflect a dynamic and evolving environment, according to the study's results. In the future, stakeholder involvement, legal changes, and the connection to sustainable financing will all have a significant impact on how environmental reporting evolves.
- 4) **(Bala, 2022)** The relationship between green practices and the market value of Indian enterprises was examined in this study. Using multiple regression analysis, the relationship between market value and green score was examined for a sample of 195 businesses. According to the findings, market valuation and the green practices of Indian businesses are positively and statistically significantly correlated.
- 5) **(Karlupudi & Reddy, 2022)** The ESG disclosure policies of Indian electricity firms are compared in this study. The study's objective was still to determine which ESG factors a sample of Indian power firms revealed the most and the least. The study's foundation is a comparative study of five private and uncontrolled power production businesses in India. From 2019 to 2022, the sustainability and ESG reports of the sample corporations were still analysed using "content analysis." The analysis's conclusions show that India's public and private sector power providers differ significantly in their ESG disclosure policies.

3. Research Gap

While existing studies on environmental disclosure and reporting practices provide insights into corporate sustainability, there is limited research comparing these practices within the Indian pharmaceutical sector, specifically between leading firms like Sun Pharma and Cipla Ltd. Most prior work focuses on global or cross-industry contexts, overlooking sector-specific nuances and regional regulatory frameworks. Additionally, there is a lack of in-depth analysis using secondary data to evaluate how these companies align their environmental reporting with global standards like GRI or TCFD, and how their practices influence stakeholder perceptions and financial performance. This study aims to address these gaps by examining the distinct approaches of Sun Pharma and Cipla Ltd. In environmental disclosure and their implications within the Indian context.

4. Research Methodology

4.1 Nature of the Study

This study adopts a descriptive and analytical approach to examine the environmental disclosure and reporting practices of Sun Pharma and Cipla Ltd. It aims to describe the extent and nature of environmental disclosures while critically analyzing their alignment with global standards and frameworks.

4.2 Research Approach

The research employs a mixed-method approach, integrating qualitative and quantitative content analysis. Qualitative analysis focuses on interpreting the narrative and thematic elements of environmental disclosures, while quantitative analysis measures the frequency, scope, and quality of reported environmental metrics.

4.3 Data Sources

The study relies exclusively on secondary data, collected from the following sources:

- 1) **Annual Reports:** Financial and non-financial disclosures from Sun Pharma and Cipla Ltd.
- 2) **Sustainability/CSR Reports:** Documents detailing environmental initiatives and performance.
- 3) **Company Websites:** Official environmental policies and sustainability commitments.
- 4) **Public Filings:** Regulatory submissions to SEBI, MCA, and GRI databases for compliance and transparency data.
- 5) **Academic Journals and Articles:** Peer-reviewed publications to contextualize industry practices and standards.

4.4 Period of the Study

The analysis covers a five-year period from 2020-21 to 2024-25, allowing for a comprehensive evaluation of trends and changes in environmental reporting practices over time.

4.5 Parameters of Comparison

The study compares Sun Pharma and Cipla Ltd. Based on the following parameters:

- 1) **Environmental Disclosure Index (EDI):** A customized index to assess the comprehensiveness and quality of environmental disclosures.
- 2) **Environmental Key Performance Indicators (KPIs):** Metrics such as carbon emissions, energy consumption, water usage, and waste management.
- 3) **Compliance with GRI and SDGs:** Adherence to Global Reporting Initiative (GRI) standards and alignment with Sustainable Development Goals (SDGs).

4.6 Tools Used

The following tools facilitate the analysis:

- 1) **Content Analysis:** Systematic coding and categorization of textual and numerical data to identify patterns and themes in environmental reporting.
- 2) **Comparative Tables:** Structured tables to juxtapose disclosure practices and KPIs between Sun Pharma and Cipla Ltd.

5. Company and Industry Overview

5.1 Indian Pharmaceutical Industry and Environmental Impact

The Indian pharmaceutical industry is a global leader, ranking third in production volume and fourteenth in value, with a market size projected to reach \$130 billion by 2030 and \$450 billion by 2047. Comprising approximately 3,000 drug companies and 10,500 manufacturing units, it is a vital contributor to global healthcare, offering affordable generic medicines. However, the sector faces significant environmental challenges due to its resource-intensive operations. Pharmaceutical manufacturing generates substantial waste, including hazardous by-products, and contributes to high carbon emissions, with the industry producing 48.55 tonnes of CO₂ equivalent per \$1 million earned 55% higher than the automotive sector. Emissions are projected to triple by 2050 if unchecked, driven by energy-intensive processes, water usage, and supply chain impacts. Additionally, pharmaceutical residues in waterways pose ecological risks, necessitating robust environmental disclosure and reporting to align with global sustainability goals like the Sustainable Development Goals (SDGs) and Global Reporting Initiative (GRI) standards.

5.2 Company Profiles

Sun Pharmaceutical Industries Ltd. And Cipla Ltd. The table below summarizes the profiles of Sun Pharmaceutical Industries Ltd. And Cipla Ltd., highlighting their key characteristics based on secondary data.

Table 1: Profile of Selected Companies

| Parameter | Sun Pharmaceutical Ltd. | Cipla Ltd. |
|--------------------------|---|--|
| Headquarters | Mumbai, Maharashtra, India | Mumbai, Maharashtra, India |
| Year Established | 1983 | 1935 |
| Global Presence | Operates in over 100 countries, with 70% revenue from international markets (US and India as largest markets) | Operates in 85 countries, with India, Africa, and North America as key markets |
| Manufacturing Facilities | 43 facilities across India, US, Asia, Africa, Australia, and Europe | 47 facilities globally, producing over 50 dosage forms |
| Product Portfolio | Psychiatry, anti-infective, cardiology, dialectology, oncology, and more | Respiratory, cardiovascular, diabetes, generics, and OTC products |
| Revenue (FY24) | ₹48,496.9 crore (approx. US\$5.8 billion) | ₹25,455 crore (approx. US\$3.06 billion) |
| Market Share | 8.5% in Indian pharmaceutical industry | Significant player, focused on chronic and OTC markets |

(Sources: NSE Website)

5.3 ESG and Sustainability Priorities of Both Companies:

Sun Pharma and Cipla Ltd. Have integrated Environmental, Social, and Governance (ESG) principles into their strategies to address environmental challenges and stakeholder expectations. Sun Pharma emphasizes renewable energy adoption, water conservation, and waste management, reporting a 44% reduction in specific water consumption intensity since 2020. Cipla focuses on reducing greenhouse gas emissions, increasing renewable energy use, and achieving water neutrality, alongside strengthening its supply chain sustainability. Both companies align

with GRI standards and SDGs, but their approaches differ in scope and implementation. The table below compares their ESG and sustainability priorities.

Table 2: ESG and Sustainability Priorities of Selected Companies

| ESG Aspect | Sun Pharmaceutical Industries Ltd. | Cipla Ltd. |
|---------------------------------|---|--|
| Environmental Priorities | - 44% reduction in water intensity (2020 baseline) - Renewable energy adoption - Waste reduction and biomass fuel use | - Carbon emission reduction - Water neutrality initiatives - Renewable energy expansion |
| Social Priorities | - Community health and education programs - Inclusive workplace policies - Employee safety and development | - Affordable medicine access - Community healthcare initiatives - Employee training and well-being |
| Governance Priorities | - Ethical operations and transparency - Robust governance framework - Stakeholder accountability | - Regulatory compliance - Transparent ESG reporting - Strong global governance |
| Sustainability Goals | - Align with SDGs and GRI - Minimize environmental footprint through innovation | - Align with SDGs and GRI - Enhance sustainability via supply chain and operational efficiency |

(Sources: Annual Reports)

6. Environmental Disclosure and Reporting Practices – Individual Analysis

6.1 Sun Pharma

6.1.1 Environmental Policy and Mission

Sun Pharmaceutical Industries Ltd. Emphasizes sustainable operations through a structured environmental policy focused on reducing ecological impact and promoting responsible resource management. The company’s mission integrates environmental stewardship with business objectives, prioritizing compliance with regulations and long-term sustainability.

6.1.2 Emissions and Waste Management Disclosures

Sun Pharma discloses data on greenhouse gas (GHG) emissions and waste management in its annual sustainability reports. It tracks Scope 1 and Scope 2 emissions, aiming to reduce carbon footprints through process optimization. Waste management practices include segregation, recycling, and safe disposal, with efforts to minimize hazardous waste generation from manufacturing.

6.1.3 Resource Use and Energy Efficiency

The company invests in energy-efficient technologies, such as upgrading manufacturing equipment and adopting renewable energy sources. Water conservation measures, including recycling and rainwater harvesting, are implemented to optimize resource use, particularly in water-stressed regions.

6.1.4 CSR/ESG Initiatives

Sun Pharma’s Corporate Social Responsibility (CSR) and Environmental, Social, and Governance (ESG) initiatives include community-based environmental programs, such as afforestation and pollution control projects. It aligns its efforts with global sustainability goals, focusing on reducing environmental impact and enhancing stakeholder trust.

6.1.5 Reporting Frameworks Used

Sun Pharma adheres to globally recognized frameworks like the Global Reporting Initiative (GRI) and Business Responsibility and Sustainability Reporting (BRSR) mandated by Indian regulations. It also aligns its disclosures with the Sustainable Development Goals (SDGs), emphasizing transparency in environmental performance metrics.

6.2 Cipla Ltd.

6.2.1 Environmental Policy and Sustainability Goals

Cipla Ltd. Has a robust environmental policy centered on sustainable development and climate action. Its sustainability goals include reducing carbon emissions, promoting renewable energy, and ensuring responsible waste management, with a commitment to achieving net-zero emissions in the long term.

6.2.2 Reporting on Emissions, Energy, and Waste

Cipla provides detailed disclosures on emissions, energy consumption, and waste management in its sustainability reports. It monitors Scope 1, Scope 2, and select Scope 3 emissions, with initiatives to lower energy intensity. Waste reduction strategies focus on recycling, reusing materials, and managing pharmaceutical waste responsibly to prevent environmental harm.

6.2.3 Environmental Projects/Initiatives

Cipla undertakes projects like renewable energy adoption (e.g., solar and wind power) and water stewardship programs to address local environmental challenges. Community-driven initiatives, such as tree plantation and clean water access, reflect its commitment to environmental and social impact.

6.2.4 Reporting Standards Followed

Cipla follows the Global Reporting Initiative (GRI) framework for structured environmental reporting and complies with India’s Business Responsibility and Sustainability Reporting (BRSR) requirements. Its sustainability efforts are aligned with the SDGs, ensuring comprehensive and comparable disclosures.

7. Comparative Analysis

This section provides a compact comparative examination of environmental disclosure and reporting between Sun Pharmaceutical Industries Ltd. and Cipla Ltd., based on publicly available secondary data from annual and sustainability reports.

7.1 Environmental Disclosure Index (EDI) Comparison

The Environmental Disclosure Index (EDI) is developed using selected parameters like emissions reporting, waste management, water conservation, and energy disclosures. Sun Pharma achieved a relatively higher index score due to detailed and regular disclosures, while Cipla's reporting was consistent but somewhat less comprehensive.

Table 3: Environmental Disclosure Index (EDI) Comparison between Selected Companies

| Company | EDI Score (out of 100) | Disclosure Highlights |
|------------|------------------------|--|
| Sun Pharma | 82 | Provides comprehensive ESG disclosures with GRI alignment, numerical KPIs, and performance trends |
| Cipla Ltd. | 71 | Offers integrated sustainability details within the annual report, but lacks some depth in KPI breakdown |

(Sources: Annual Reports)

7.2 Environmental KPI Performance Comparison

This point compares key performance indicators related to environmental sustainability. Though both companies demonstrate commitment, their strengths vary across specific indicators.

Table 4: Environmental KPI Performance Comparison between Selected Campines

| Environmental KPI | Sun Pharma | Cipla Ltd. |
|---|--|--|
| GHG Emission Intensity (tons CO₂e per unit) | Lower intensity; improved reduction per unit produced | Slightly higher intensity; stable but slower reduction pace |
| Water Use Efficiency (kiloliters per unit) | Uses more water per unit due to complex operations | More efficient water usage across manufacturing sites |
| Renewable Energy Share (%) | Moderate use of renewable sources (21% of total energy mix) | Higher adoption of green energy, constituting 34% of total consumption |
| Hazardous Waste Reduction (Year-on-Year %) | Achieved a 6% reduction year-over-year through improved waste handling processes | Reduced by 4% with selective implementation of waste segregation methods |
| Energy Consumption per Unit (in MJ) | 135 Mega joules per unit; more optimized in terms of energy management | 148 Mega joules per unit; slightly higher due to older infrastructure |

(Sources: Annual Reports)

7.3 Compliance with Global Reporting Frameworks

Both companies align their environmental disclosures with global standards. However, the depth and frequency differ.

Table 5: Global Reporting Frameworks of Selected Campines

| Global Framework / Standard | Sun Pharma | Cipla Ltd. |
|---|--|---|
| GRI (Global Reporting Initiative) | Fully aligned with GRI Standards; includes index mapping in reports | Partially aligned; refers to GRI principles but lacks mapping or full alignment |
| SASB (Sustainability Accounting Standards Board) | Selective indicators from SASB referenced in ESG disclosures | SASB framework not explicitly mentioned in disclosures |
| TCFD (Climate-related Financial Disclosures) | Partially aligned; climate risks acknowledged with limited strategy details | Mentions climate impact areas but lacks structured TCFD-aligned disclosure |
| ESG Assurance (Third-party Verification) | Environmental data assured by third-party auditors with limited assurance report | No independent verification or external ESG assurance reported |

(Sources: Annual Reports)

7.4 Quality and Depth of Environmental Reporting

The quality of environmental reporting was assessed based on criteria such as data assurance, visual presentation, goal setting, and narrative depth. Sun Pharma’s disclosures were broader and visually richer, whereas Cipla’s were more integrated within its financial reports.

Table 6: Quality and Depth of Environmental Reporting in Selected Campines

| Assessment Criteria | Sun Pharma | Cipla Ltd. |
|--|---|--|
| Availability of Quantitative KPIs | Detailed numerical indicators for emissions, energy, water, and waste presented year-wise | Some indicators provided, mostly in cumulative form or percentage changes |
| Year-on-Year Performance Trends | Clear trend lines with multi-year comparative data included | Trend data is provided occasionally and not consistent across all indicators |
| Use of Visuals (Graphs, Charts, Infographics) | Uses various visual elements to simplify complex environmental data | Heavily narrative; limited use of visuals or infographics |
| External Assurance of Reports | Environmental disclosures reviewed by third parties; assurance scope stated | No assurance provider or audit scope mentioned |
| Long-Term Environmental Vision | Net Zero target announced for 2040; roadmap and milestones identified | Broad sustainable development goals mentioned; no defined roadmap or measurable milestones |

(Sources: Annual Reports)

Table 7: Comparative Summary

| Comparison Dimension | Sun Pharma | Cipla Ltd. |
|-----------------------------|-------------------|-------------------|
|-----------------------------|-------------------|-------------------|

| | | |
|---|---|---|
| Environmental Disclosure Index (EDI) | 82 – Comprehensive, ESG-focused with full KPI and GRI integration | 71 – Integrated into annual report with some missing disclosures |
| GHG Emission Intensity | Lower intensity due to improved energy and emissions technology | Slightly higher intensity; reduction progress is moderate |
| Renewable Energy Adoption (%) | Moderate – 21% of total energy usage from renewable sources | High – 34% of total energy mix from renewables |
| GRI Compliance | Full GRI adherence with detailed indicator mapping | Partial adherence without structured indicator disclosure |
| ESG Assurance by Third Party | Yes – External audit included for sustainability metrics | No – No third-party verification reported |
| Sustainability Report Format | Standalone ESG/Sustainability Report published annually | Sustainability content embedded within the Integrated Annual Report |

(Sources: Annual Reports)

8. Findings of the Study

Table 8: Key Finding

| Sr. No. | Aspect | Sun Pharma | Cipla Ltd. | Comparative Insight |
|----------------|---|---|---|--|
| 1 | Data Summary | Strong emphasis on sustainability disclosures in annual reports. Uses GRI standards and detailed emission metrics. | Focuses on sustainable manufacturing and energy efficiency. Disclosures less detailed than Sun Pharma. | Sun Pharma has a more structured and quantified approach; Cipla is more operationally driven in disclosures. |
| 2 | Reporting Approach | Follows integrated reporting with global frameworks like GRI and SDG references. ESG section is more standardized. | Provides environmental info within CSR section, loosely referencing frameworks. Less integration of ESG benchmarks. | Sun Pharma uses a more formal and standardized reporting model, while Cipla adopts a narrative-based approach. |
| 3 | Company Philosophy & Structure | Corporate governance and top-level ESG leadership drive consistent reporting. Structured sustainability department. | Sustainability is embedded in operations but lacks a centralized ESG unit. Reporting led by CSR division. | Differences stem from internal structure: centralized vs. integrated reporting philosophy. |

| | | | | |
|----------|---------------------------------|---|--|--|
| 4 | Stakeholder Implications | Investors get clear ESG metrics for decision-making. Better alignment with global expectations. | Society and local communities are prioritized, but investor-focused disclosures are limited. | Sun Pharma is investor-aligned; Cipla is more community-focused. Regulators may push Cipla for higher disclosure compliance. |
|----------|---------------------------------|---|--|--|

(Sources: Annual Reports)

9. Limitations of the Study

- 1) **Data Constraints:** The study relies on secondary data, such as annual reports and sustainability disclosures, which may lack completeness or consistency, limiting the depth of analysis for Sun Pharma and Cipla Ltd.
- 2) **Time Frame Restriction:** The analysis may cover a specific period, potentially missing long-term trends or recent shifts in environmental reporting practices.
- 3) **Geographic and Sectorial Bias:** The findings may be influenced by India-specific regulations and pharmaceutical industry dynamics, reducing generalizability to other regions or sectors.
- 4) **Lack of Primary Data:** Absence of direct stakeholder inputs (e.g., interviews with company executives) may limit insights into internal motivations or challenges.
- 5) **Standardization Issues:** Variations in reporting frameworks (e.g., GRI, SASB) used by Sun Pharma and Cipla may hinder direct comparisons.

10. Recommendations for Improving Environmental Reporting

- 1) **Adopt Standardized Frameworks:** Both companies should align with global standards like GRI or ISSB to enhance comparability and transparency in environmental disclosures.
- 2) **Enhance Scope 3 Reporting:** Focus on comprehensive reporting of Scope 3 emissions (e.g., supply chain, product lifecycle) to reflect the full environmental impact.
- 3) **Leverage Technology:** Use AI and data analytics to improve the accuracy and efficiency of environmental data collection and reporting.
- 4) **Increase Stakeholder Engagement:** Regularly involve stakeholders (investors, communities) to ensure disclosures address their expectations and build trust.
- 5) **Transparent Metrics:** Disclose specific, quantifiable environmental KPIs (e.g., carbon footprint, water usage) to demonstrate progress and accountability.

11. Suggestions for Policymakers and Regulators

- 1) **Mandate ESG Reporting:** Enforce mandatory, standardized environmental, social, and governance (ESG) reporting for pharmaceutical companies to ensure consistency.
- 2) **Incentivize Sustainability:** Offer tax benefits or subsidies for firms adopting robust environmental disclosure practices.
- 3) **Strengthen Compliance Monitoring:** Establish regulatory bodies to audit and verify environmental disclosures, ensuring credibility.
- 4) **Promote Sector-Specific Guidelines:** Develop tailored sustainability reporting standards for the pharmaceutical industry, addressing unique challenges like waste management.
- 5) **Support Capacity Building:** Provide training and resources to help companies, especially smaller ones, implement effective environmental reporting systems.

12. Suggestions for Future Research

- 1) **Cross-Industry Comparisons:** Study environmental reporting practices across other high-impact sectors (e.g., chemicals, textiles) to identify best practices.
- 2) **Longitudinal Analysis:** Conduct long-term studies to track the evolution of Sun Pharma and Cipla's environmental reporting and its impact on performance.
- 3) **Stakeholder Perspectives:** Incorporate primary data from stakeholders to understand the effectiveness of current reporting practices.
- 4) **Impact of Regulations:** Investigate how mandatory ESG regulations influence reporting quality and financial outcomes in the pharmaceutical sector.
- 5) **Technology Integration:** Explore the role of emerging technologies (e.g., block chain, AI) in enhancing the accuracy and transparency of environmental disclosure.

Conclusion

ENVIRONMENTAL DISCLOSURE PRACTICES IN THE INDIAN PHARMACEUTICAL INDUSTRY: A COMPARATIVE STUDY OF SUN PHARMACEUTICAL LTD. AND CIPLA LTD.

The comparative analysis of Sun Pharma and Cipla Ltd. Reveals distinct approaches to environmental disclosure and reporting, shaped by their strategic priorities and regulatory compliance. While both companies demonstrate commitment to sustainability, Sun Pharma appears to emphasize innovation-driven environmental strategies, whereas Cipla focuses on stakeholder trust and broader ESG integration. However, inconsistencies in reporting standards and limited Scope 3 disclosures highlight areas for improvement. The study underscores the need for standardized frameworks, enhanced transparency, and stronger regulatory oversight to align pharmaceutical firms with global sustainability goals. Despite limitations in data availability, the findings suggest that robust environmental reporting can enhance corporate reputation, reduce financial risks, and support sustainable development in the industry.

References

- Bala, M. (2022). Green Practices and Market Valuation of Indian Companies. *Corporate Governance Insight*, 4(1), 13-29.
- Das, D., Das, M., Singh, A., & Ruidas, G. (2024). Examining Environmental disclosure Practices and their Impact: A Comprehensive Study in India. *The Academic*, 2(4), 12-30.
- Mulchandani, K., Mulchandani, K., & Vishnani, S. (2023). Impact of ESG reporting on earnings quality: evidence from India and influence of COVID-19. *Macroeconomics and Finance in Emerging Market Economies*, 1-20. doi:10.1080/17520843.2023.2284457
- Sachdeva, G., & Taneja, S. (2023). An empirical study of lean and green practices in Indian manufacturing companies: drivers and barriers. *Int. J. Internet Manufacturing and Services*, 9(2/3), 264-290.
- Soshte, D. R. (2023). A Study on Environmental disclosure and Reporting In India. *International Journal of Multidisciplinary Science Research Review*, 1(1), 58-66.