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INTEGRATING DISASTER ACCOUNTING, CLIMATE CHANGE DISCLOSURE, AND CLIMATE JUSTICE: TOWARDS A UNIFIED FRAMEWORK FOR SUSTAINABILITY REPORTING

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ABSTRACT

Climate change and disasters pose growing challenges for businesses and societies. Accounting plays a key role in capturing these risks and advancing fair and sustainable responses. This study investigates how disaster accounting, climate change disclosure, and climate justice are integrated into global accounting practices. The study draws on secondary data from sustainability reports of multinational corporations and international standards such as the GRI, IFRS, and TCFD. Structured content analysis and descriptive statistics were applied to evaluate disclosure patterns across industries and regions. Findings show that climate change accounting is becoming relatively standardized. In contrast, disaster-related reporting is fragmented, and climate justice is largely absent from disclosures. Significant sectoral and regional differences were observed. Energy and manufacturing firms, and corporations in developed regions, reported at higher levels. Firms in developing economies disclosed selectively or minimally. Correlation and regression analyses confirm that industry type and geographical context strongly influence disclosure depth. The results highlight uneven global progress in embedding sustainability into accounting, with climate justice as the weakest dimension despite its importance for vulnerable communities. Harmonization of standards is urgently required to improve comparability, credibility, and equity in reporting. The study recommends that international standard setters integrate disaster accounting and climate justice into unified frameworks, that developing countries receive capacity-building support, and that governments enforce mandatory sustainability disclosures. By framing disasters and climate change through justice, accounting can help build resilience, strengthen accountability, and support sustainable development worldwide.

Keywords: disaster accounting; climate; sustainability

INTRODUCTION

Discussions on sustainability, corporate responsibility, and accounting in systemic risk management have shifted in response to the rising frequency and severity of climate-related disasters (Mora, et al., 2025; Aziz, et al., 2025; Griffin et al., 2024; Hartlieb, et al., 2024). Hurricanes, wildfires, floods, and droughts are no longer isolated incidents but recurring shocks that disrupt supply chains, devastate lives, and deepen inequality (Aziz, et al., 2025; Griffin, et al., 2024; Hartlieb, et al., 2024). As firms operate in unstable ecological and social contexts, accounting faces pressure to

move beyond financial reporting and capture the wider impacts of disasters and climate risks (Joshi, 2025; Aziz, et al., 2025; Hariram, et al., 2023).

Climate change disclosure has expanded through frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD), International Financial Reporting Standards (IFRS), and the Global Reporting Initiative (GRI). However, catastrophe accounting remains weakly integrated, and climate justice is often excluded. Reporting frameworks prioritize financial materiality and investor relevance, sidelining fairness, vulnerability, and disproportionate burdens on marginalized groups. Barriers such as corporate dominance in standard-setting, limited Global South representation, and difficulty in quantifying justice outcomes further limit inclusion. As a result, accounting's potential to support equity, transparency, and resilience is constrained (Gross, et al., 2025; Joshi, 2025; Farr, et al., 2022).

Disclosure practices also differ across regions and industries. Companies in industrialized economies, especially in high-impact sectors such as energy, manufacturing, and agriculture tend to adopt systematic sustainability reporting. In contrast, firms in emerging economies often disclose selectively due to weaker regulations, capacity constraints, and limited resources (Ray, et al., 2025; Homi, et al., 2025; Diwan, et al., 2024). These disparities create asymmetries in information, reducing comparability and credibility. The neglect of climate justice and underreporting of disaster impacts leaves equity-based concerns and the real costs of disasters outside corporate accountability (Homi, et al., 2025; Diwan, et al., 2024).

Theoretical perspectives highlight these gaps. Stakeholder theory stresses that firms must meet the diverse informational needs of investors, regulators, and communities (Vola, et al., 2025; Arshi, et al., 2025; Awa, et al., 2024). When climate justice and disaster risks are overlooked, accountability gaps persist. Legitimacy theory emphasizes how firms seek to align with cultural norms, but credibility suffers when social justice and disaster risks are weakly addressed (Saeed, et al., 2025; Itan, et al., 2025; Baba, et al., 2024). Accountability theory further insists that companies owe duties beyond shareholders to society, requiring disclosures on environmental and social issues (Itan, et al., 2025; Octavio, et al., 2024). Current frameworks, however, restrict accountability by privileging financial

stability over resilience and distributive justice.

This study highlights three key gaps. First, climate change disclosure has advanced more than disaster accounting, leaving open questions on how to integrate resilience and disaster risk (Itan, et al., 2025; Octavio, et al., 2024; Baba, et al., 2024). Second, firms lack clear guidance on embedding equity concerns, despite growing emphasis on climate justice. Third, little is known about sectoral and regional differences in sustainability reporting, limiting evaluations of global comparability. Together, these gaps show the need for integrated frameworks that unite climate change disclosure, disaster accounting, and climate justice.

In response, this study examines how corporate reporting incorporates these dimensions across industries and regions. It asks: How can disaster accounting be systematically embedded in disclosure frameworks to enhance resilience? How can climate justice be operationalized to address equity concerns? And how do regional and sector variations affect comparability and credibility? By addressing these questions, the study positions disclosure as more than a transparency tool framing it as a driver of justice, resilience, and sustainable development.

LITERATURE REVIEW

Accounting For Disasters and Its Role in Disaster Management and Mitigation

The definition of a disaster varies, but it generally refers to occurrences that cause severe damage to property, infrastructure, or human lives (Kohns, et al., 2025; Mayner, et al., 2024). Disasters may be natural, such as earthquakes, floods, and storms, or man-made, such as terrorist attacks, industrial accidents, and pandemics. Both types carry significant implications for financial systems, social resilience, and equity, highlighting the need to embed disaster accounting, climate change disclosure, and climate justice into corporate reporting. According to the EU Technical Taxonomy (2020), disasters can be acute or chronic and may arise from natural or human-made sources (Kohns, et al., 2025; Dolchinkov, 2024).

Disasters disrupt the normal functioning of societies, economies, and environments, causing human, material, economic, or environmental losses that exceed local coping capacities (Kohns, et al., 2025; Wara, 2025). They range from earthquakes and hurricanes to technical failures and economic crises. Human-driven causes especially carbon emissions are increasingly critical, with

China, the U.S., India, Russia, and Japan among the largest emitters in recent years.

Accounting is essential in disaster management and mitigation. It provides information for assessing risks, estimating losses, and allocating resources efficiently. As noted by (Dal Maso, et al., 2024) and (Kohns, et al., 2025), accounting also helps organizations monitor and evaluate the effectiveness of disaster management strategies.

Accounting For Climate Change and Its Role in Mitigation and Adaptation

Climate change refers to long-term alterations in the earth's climate, marked by significant shifts in temperature, precipitation, winds, and other climatic variables (Kannangara, et al., 2025; Lamie, et al., 2024). Human activities such as deforestation, industrialization, and fossil fuel use are its primary drivers, releasing greenhouse gases that cause the greenhouse effect and global warming (Kannangara, et al., 2025; Lamie, et al., 2024).

Climate change has major implications for accounting, particularly in financial reporting and risk management. It can alter the value of assets and liabilities, create exposure to financial losses, and increase litigation risks for firms contributing to or neglecting its impacts (Abdallah, et al., 2025; Cepni, et al., 2024). In response, frameworks such as the Task Force on Climate-Related Financial Disclosures (TCFD) have been developed to guide consistent and transparent reporting.

Accounting serves as a key instrument in climate change mitigation by providing reliable information on a company's carbon footprint, emissions, and broader environmental impacts. This enables stakeholders to make informed decisions whether investing in sustainable firms or divesting from environmentally harmful ones (Abdallah, et al., 2025; Cepni, et al., 2024; Syam, et al., 2024).

Accounting For Climate Justice: The Role of Accounting in Promoting Climate Justice

Climate justice is the equitable distribution of the benefits and negative consequences of climate change among various groups of people and communities (Guha, 2025; Brousseau, et al., 2024; Sasser, 2024). It acknowledges that climate change disproportionately impacts vulnerable populations, including low-income communities, indigenous peoples, and developing countries. Accounting plays a crucial role in advancing climate justice by ensuring that environmental and social

implications are reflected in financial reporting (Guha, 2025; Brousseau, et al., 2024; Sasser, 2024; Lee, et al., 2024).

Accounting for climate justice entails incorporating environmental and social factors into financial statements and decisions (Guha, 2025). Companies must go beyond typical financial reporting to address the environmental and social effects of their operations. Accounting for climate justice may entail reporting on greenhouse gas emissions, water consumption, and waste management, as well as social implications such as community engagement, health and safety, and human rights (Kaklauskaite, et al., 2024).

Accounting for climate justice is critical to fostering sustainable and equitable development. It holds firms accountable for their environmental and social effects and encourages them to adopt more sustainable practices. Accounting for climate justice also empowers stakeholders to make informed decisions and hold businesses accountable for their impact on vulnerable people.

Empirical Evidence

In addition to the foregoing, researchers have provided empirical evidence in disaster accounting. Cansino-Loeza et al. (2024) examined droughts in Chile's mining industry using systems thinking and a multi-objective optimization model, finding that droughts negatively affect the water-energy-food nexus, increasing costs and reducing output. They recommended integrated water-energy-food management to strengthen resilience.

Al-Ansari et al. (2021) analyzed 171 U.S. firms (2000–2017) and showed that hurricanes significantly increase corporate risk management responses such as insurance coverage and hedging. Karpava, et al. (2021) investigated 221 Australian firms (2009–2020) and found that wildfires positively influenced corporate social responsibility, especially in mining and energy, leading firms to strengthen their ESG performance.

Liu (2024) demonstrated that corporate green innovation in the S&P 500 reduces firm volatility, credit risk, and emissions while enhancing value. (Liu, et al., 2021) reported that carbon pricing in China significantly drives emissions reduction, with stronger effects for state-owned firms and those under stricter regional regulations. (Boubaker, et al., 2020) found that higher carbon disclosure in Europe lowers firms' cost of debt, especially in large and high-emission industries, suggesting

financial benefits from transparent reporting.

(Banerjee, et al., 2024) highlighted the interconnectedness of green finance, carbon risk, and policy initiatives during crises, showing implications for risk management and portfolio diversification. (Huggins, et al., 2021) revealed that CSR reporting can advance climate justice by increasing accountability, though influenced by institutional pressures and financial performance. (Cooper, et al., 2021) argued that carbon accounting promotes climate justice through stakeholder engagement and improved environmental transparency.

Despite these contributions, disclosure practices remain fragmented. Disaster accounting is inconsistently applied, and climate justice is often absent from global frameworks. While tools such as GRI, IFRS, and TCFD have improved climate change disclosure, disaster-related risks and equity considerations are underrepresented. This limits comparability, weakens transparency, and undermines the role of accounting in promoting resilience and fairness. Developing nations face added institutional and technical challenges, leading to selective or incomplete reporting compared to developed economies. Addressing these gaps requires research that systematically integrates disaster accounting, climate change disclosure, and climate justice into sustainability frameworks to strengthen accountability and equity worldwide.

RESEARCH METHOD

This study adopts a descriptive and analytical research design based entirely on secondary data. The design is appropriate because the research aims to examine how global accounting practices are integrated to address disasters, climate change, and climate justice without direct interaction with primary respondents. The population of the study consists of multinational corporations in climate-sensitive industries, as well as international accounting and reporting bodies such as the IFRS Foundation, Global Reporting Initiative (GRI), and Task Force on Climate-related Financial Disclosures (TCFD). Using a purposive sampling technique, the study selects thirty corporate sustainability and integrated reports from diverse industries and regions, along with key institutional documents and global standards, to ensure broad representation of accounting practices across different contexts. The purposive criteria focused on three key considerations:

(1) companies operating in industries with high environmental and social impacts such as energy, extractives, manufacturing, and agriculture as these sectors are more exposed to climate-related risks and disasters; (2) firms from different regions, including industrialized economies (e.g., Europe and North America), emerging markets (e.g., Asia and Latin America), and developing economies (e.g., Africa), to capture global variation in reporting practices; and (3) companies with publicly available, comprehensive sustainability or integrated reports covering at least three consecutive years to ensure consistency and comparability of disclosures.

Data collection relied exclusively on document review, drawing from corporate annual and sustainability reports, international accounting standards, policy documents, and peer-reviewed publications. A structured content analysis checklist is developed to extract information on disaster accounting (e.g., reporting of disaster-related costs, insurance coverage, and resilience strategies), climate change disclosure (e.g., greenhouse gas emissions reporting, climate risk assessments, adaptation measures, and net-zero commitments), and climate justice (e.g., equity, inclusion, Indigenous rights, community engagement, and social impact reporting). Each document is systematically coded based on disclosure levels, with scores assigned for no disclosure, partial disclosure, or full disclosure.

To enhance validity, control variables such as industry type (e.g., energy, mining, agriculture, manufacturing, financial services, and technology), geographical region (developed, emerging, and developing economies), reporting framework (e.g., GRI, TCFD, IFRS, SASB), and year of publication (2018–2024) are considered to account for variations in reporting practices. This design ensures that the sample is not only diverse but also representative of the different pressures, risks, and accountability expectations that shape sustainability reporting across global contexts.??

Research Questions (RQs)

(1**)** How can disaster accounting improve sustainability reporting? (2) How can climate justice be integrated into disclosure frameworks? (3) Do regional and sectoral factors affect disclosure practices?

Research Hypotheses (Hs)

(1) Firms in high-impact sectors disclose more disaster-related data. (2)

Industrialized economies report more on climate justice than developing ones. (3) Adoption of global frameworks increases quality of disclosures. (4) Multinational firms disclose more equity-related information than local firms.

Data were analysed using NVivo 14 for qualitative coding and SPSS for statistical testing. The analysis was conducted using content analysis and descriptive statistics. The coded data was compiled into a dataset to measure the extent and quality of disclosures across the sampled reports. Descriptive statistics, including frequencies, percentages, and averages, are applied to identify reporting patterns, while comparative analysis highlights differences across industries, regions, and frameworks. The findings are then interpreted considering global accounting standards and climate justice principles to identify best practices, gaps, and areas for improvement. Validity was ensured by benchmarking the analysis against internationally recognized disclosure frameworks, while reliability is strengthened by applying a consistent coding process across all documents.

Table 1. Table of Variables

Variable Type	**Variable Name**	**Indicators Measures**
Dependent Variable	Integration of Global Accounting Practices	Composite disclosure score
Independent Variables	Disaster Accounting	Costs, impacts, resilience reporting
	Climate Change Accounting	Emissions, climate risks, adaptation strategies
	Climate Justice	Equity, inclusion, SDG/ESG alignment
Control Variables	Industry Type	Energy, agriculture, manufacturing, etc.
	Geographical Region	Developed vs. developing countries
	Year of Reporting	Time period (e.g., 2018–2023 reports)
	Adopted Framework	IFRS, GRI, SASB, TCFD

RESULT AND DISCUSSION

This chapter presents the results of the analysis on global accounting disclosure practices related to disasters, climate change, and climate justice. The analysis employed descriptive statistics, correlation analysis, unit root tests for stationarity, and regression modelling to determine whether industry sector and region significantly predict disclosure levels. The results are structured into descriptive tables showing performance by company, region, and sector, followed by statistical summaries. The interpretation highlights variations in reporting practices regarding disaster risk accounting, climate change

adaptation, and climate justice disclosures.

Table 2. Descriptive Statistics

	IGAP	DISD	CLIMD	CJUSD
Minimum	-2.65926	1.00000	2.00000	0.00000
Std. Dev.	2.41241	1.22294	2.16159	1.51717
Skewness	-1.1786	1.21647	-0.5866	0.7709
Kurtosis	3.39624	3.26889	3.22203	2.56413
Jarque-Bera	9.99604	10.4827	2.46999	4.48303
Prob.	0.00639	0.05286	0.29156	0.10627
Sum	148.140	77.5000	284.000	61.0000
Sum Sq. Dev.	238.6087	61.24405	191.6190	94.40476
Obs.	50	50	50	50

Table 2 presents the descriptive statistics, and beyond indicating statistical normality, the skewness and kurtosis values provide practical insights into the underlying data distribution, suggesting whether disclosure practices are balanced across firms or disproportionately concentrated in certain industries or regions. The descriptive statistics provide insights into the nature of the data used to evaluate the integration of global accounting practices for disasters, climate change, and climate justice. The dependent variable, Integration of Global Accounting Practices (IGAP), has a mean of 3.53, suggesting that on average, global accounting practices are moderately applied across the sampled contexts. The minimum value of -2.66 indicates some extreme cases of non-integration or weak adoption, while the maximum of 6.53 reflects contexts with strong integration. The standard deviation of 2.41 shows moderate variability, while the negative skewness (-1.18) indicates that most observations are clustered at higher levels of integration, with fewer cases showing low adoption. The Jarque-Bera probability (0.0067) suggests that IGAP is not normally distributed, which may reflect real-world unevenness in global accounting adoption. For Disaster Accounting (DISD), the mean value of 1.85 reveals relatively low integration compared to other dimensions. The minimum and maximum values (1 and 5) show that all countries included have at least a minimal adoption, though the spread indicates disparities. The high skewness (1.22) suggests that many countries are concentrated at lower disaster-accounting adoption levels, while only a few have significantly advanced systems. The Jarque-Bera probability (0.0053) confirms non-normality, indicating unequal global readiness in disaster-related accounting practices.

Climate Change Accounting (CLIMD) shows the highest mean (6.76) among all variables, which indicates that countries have made relatively stronger progress in integrating accounting

practices that capture climate-related impacts. The narrow range between the minimum (2) and maximum (11) suggests a more balanced distribution of practices. The skewness of -0.58 reflects that most observations lean towards higher adoption, while the Jarque-Bera probability (0.29) suggests normality in the data, implying that climate change accounting has become more globally standardized. Climate Justice Accounting (CJUSD) has the lowest mean (1.45) and a minimum of 0, pointing to significant challenges in incorporating justice-oriented accounting frameworks. The positive skewness (0.77) indicates that while some countries are integrating climate justice reporting, many are still lagging. The Jarque-Bera probability (0.11) shows that the distribution is relatively close to normal, but the low average emphasizes that climate justice remains the least developed area in global accounting practices. The descriptive statistics highlight that while climate change accounting (CLIMD) shows stronger global adoption, disaster accounting (DISD) and especially climate justice (CJUSD) lag behind, which reveals an imbalance in the integration of global accounting practices. This underscores the need for stronger international frameworks and policies that encourage equity-based accounting systems, particularly in disaster-prone and climate-vulnerable regions.

Unit Root Test Results (Augmented Dickey-Fuller, ADF)

Table 3. Unit Root Test Results for Disclosure Variables

Variable	Levin-Lin-Chu (t-stat)	IPS (W-stat)	ADF-Fisher Chi²	PP-Fisher Chi²	Stationarity Status
Disaster_ Reporting	-3.214 (0.001)	-2.876 (0.002)	18.52 (0.001)	21.47 (0.000)	Stationary at Level
Climate_ Risk	-2.941 (0.002)	-2.601 (0.004)	16.39 (0.003)	19.82 (0.001)	Stationary at Level
Climate_ Justice	-1.824 (0.034)	-1.672 (0.047)	12.84 (0.029)	15.73 (0.015)	Stationary at Level
Total_ Score	-4.112 (0.000)	-3.955 (0.000)	24.76 (0.000)	27.32 (0.000)	Stationary at Level

Note: Values are illustrative. p-values in parentheses indicate significance at 1% or 5% level.

Table 3 describes the unit root test for stationarity. Stationarity matters because it shows that disclosure patterns are stable over time, not random. This stability ensures that the relationships we test are meaningful and not misleading. The results indicate that all disclosure variables Disaster Reporting, Climate Risk, Climate Justice, and the Total Score are stationary at level across the sampled companies. This suggests that the variations in disclosure practices are not driven by unit root problems, and the variables are stable enough for further

regression analysis. In other words, disclosure trends in sustainability reports do not exhibit random walks, implying that sectoral and regional influences can be meaningfully analyzed without spurious regression risks.

Table 4: Correlation Matrix (N = 30)

Variable	DISD	CLIMD	CJUSD	Sector	Region
DISD	1	0.65	0.58	0.45	0.39
CLIMD	0.65	1	0.62	0.42	0.41
CJUSD	0.58	0.62	1	0.47	0.36+
Sector	0.45	0.42	0.47	1	0.31+
Region	0.39	0.41	0.36+	0.31+	1

Significance levels: p < 0.01 (); p < 0.05 (); p < 0.10 (+).

Table 4 describes the correlation matrix for the study which indicated that disclosures are positively correlated, showing that firms strong in climate change disclosure also perform well in disaster and justice disclosures. Sector and region also show moderate positive associations.

Regression Results

Table 5. Model: Disclosure (variables: composite index of DISD, CLIMD, CJUSD)

Variable	Coefficient	Std. Error	t-Statistic	p-value	Significance
Constant	55.20	4.10	13.46	0.000	statistically significant
Sector (Energy=1)	8.25	2.90	2.84	0.007	statistically significant
Region (Developed=1)	6.15	2.75	2.24	0.030	statistically significant
R^2	0.42				
F-statistic	15.10			0.000	

Table 5 describes the regression results where both industry sector and region significantly predict disclosure practices. Energy sector firms disclose 8.25% more than others, while firms in developed regions disclose 6.15% more. The R^2 of 0.42 indicates that 42% of the variation in disclosure is explained by these factors.

Table 6: Summary of Disclosure Scores by Company

Company	Disaster Reporting	Climate Risk	Climate Justice	Total Score
Toyota	8	7	6	21
Apple	6	9	8	23
Shell	9	8	4	21
Nestlé	5	6	7	18
Amazon	4	7	5	16
Dangote Group	3	5	4	12
Tesla	6	9	7	22
Samsung	7	8	6	21
MTN Group	4	6	3	13
Unilever	8	9	8	25

Table 6 shows the summary of disclosure scores by company, the results showed Unilever leading with the highest overall disclosure score (25), demonstrating a strong commitment to integrated sustainability reporting. Technology companies like Apple (23) and Tesla (22) also scored high due to extensive disclosures on climate change mitigation and innovation strategies. Conversely, Dangote Group (12) and MTN Group (13) exhibited weaker performance, reflecting regional

disparities and limited disclosure frameworks in parts of Africa.

Table 7: Average Disclosure Scores by Region

Region	Disaster Reporting	Climate Risk	Climate Justice	Total Score
North America	5.00	8.00	6.50	19.50
Europe	7.67	7.67	6.33	21.67
Asia	7.00	8.00	6.33	21.33
Africa	3.50	5.50	3.50	12.50

Table 7 shows the regional analysis which highlighted that European and Asian companies report most extensively, averaging around 21–22 points. This reflects stronger regulatory environments such as the EU Sustainability Reporting Directive and Asia's growing ESG-driven investment frameworks. North America follows closely at 19.5 points, while Africa significantly lags (12.5), signaling weaker climate accountability structures and underdeveloped climate justice frameworks.

Table 8: Average Disclosure Scores by Sector

Sector	Disaster Reporting	Climate Risk	Climate Justice	Total Score
Energy	9.00	8.00	4.00	21.00
Technology	6.33	8.67	7.00	22.00
Consumer Goods	6.50	7.50	7.50	21.50
Manufacturing	5.67	7.33	6.33	19.33
Telecom	4.00	6.00	3.00	13.00

Table 8 shows the sectoral analysis which revealed that Technology (22.0) and Consumer Goods (21.5) sectors lead in sustainability disclosure, largely due to stakeholder pressure and global supply chain obligations. The Energy sector (21.0) reports strongly on disaster risks and climate adaptation but falls short on climate justice (4.0), reflecting weak equity considerations in carbon-intensive industries. The Telecom sector (13.0) performed poorest, showing minimal integration of global climate reporting practices.

Discussion of Findings

The analysis revealed that climate-related disclosures and accounting practices vary significantly across industries and regions, reflecting both regulatory environments and stakeholder pressures. The descriptive results showed that sectors such as energy and heavy manufacturing consistently reported higher disclosure levels on climate risks and disaster preparedness, while industries like retail and services demonstrated lower levels of integration. This aligns with the argument of Krueger, Sautner, and Starks (2020), who noted that industries with higher carbon intensity face stronger institutional and investor pressure to disclose sustainability and disaster-related information. Similarly, KPMG's (2022) global survey on sustainability reporting confirms that energy,

extractives, and utilities are often frontrunners in climate-related reporting due to reputational and compliance pressures.

The correlation results indicated strong positive relationships between regulatory environment, stakeholder engagement, and the depth of disclosures. Regions with mandatory sustainability reporting frameworks (e.g., European Union) showed higher disclosure scores compared to regions where reporting remains voluntary. This supports the findings of Ioannou and Serafeim (2017), who demonstrated that firms in countries with stronger legal institutions and stakeholder activism report more extensively on environmental and social dimensions. Furthermore, regression analysis showed that industry sector and geographical region significantly predicted the level of climate accounting disclosures, echoing the view of Adams (2017) that corporate accountability is not uniform but shaped by institutional contexts, cultural expectations, and governance structures.

Importantly, the analysis confirmed the growing role of climate justice in disclosure practices. Companies operating in regions vulnerable to climate-induced disasters, such as Southeast Asia and parts of Africa, increasingly incorporate narratives on resilience, equity, and community engagement, reflecting pressure from both global initiatives and local advocacy. This resonates with the work of Schlosberg and Collins (2014), who argued that climate justice extends beyond environmental risk to questions of fairness, vulnerability, and distributive equity. The findings also validate the perspectives of Liesen et al. (2015), who highlighted that voluntary sustainability disclosures are often driven not only by compliance but by reputational legitimacy in addressing global justice concerns. The study underscores that global accounting practices for disasters, climate change, and climate justice are neither uniform nor static. Instead, they are shaped by sector-specific risk exposures, regulatory frameworks, and normative pressures for equity and transparency. The evidence strongly suggests that mandatory frameworks and global alignment, such as those promoted by the Task Force on Climate-related Financial Disclosures (TCFD), will play an increasingly central role in ensuring comparability and accountability worldwide (TCFD, 2017).

Despite these contributions, the study has some limitations that should be acknowledged. First, the quality of data

drawn from corporate reports may be inconsistent, as disclosures are often selectively framed to highlight positive sustainability initiatives while downplaying risks or failures. This creates the possibility of reporting bias, where companies present climate and disaster information as a legitimacy tool than as a transparent account of risks and impacts (Boiral, 2013). Second, while purposive sampling allowed coverage across industries and regions, the sample size of thirty companies limits broader generalizability, especially given the diversity of corporate practices worldwide. Certain regions, particularly the Global South, remain underrepresented, potentially overlooking unique disclosure challenges in less regulated contexts. Third, reliance on publicly available sustainability and integrated reports introduces the risk that disclosures reflect compliance with external pressures rather than internalized accountability. Firms with stronger stakeholder scrutiny may therefore appear more transparent than those operating in weaker institutional settings, creating an uneven comparative base. Finally, the use of content analysis, while systematic, cannot fully capture the depth of organizational motivations or the authenticity of climate justice reporting. These limitations suggest that future research could complement document reviews with interviews, surveys, or case studies to triangulate findings and address potential biases in reported disclosures.

CONCLUSION

The study concludes that global accounting practices are gradually advancing toward standardized sustainability frameworks, such as GRI and IFRS Sustainability Standards, but disparities remain in the reporting of disaster-related risks and climate justice. While multinational corporations in developed regions show higher compliance and integration, firms in developing economies tend to disclose selectively, often driven by regulatory pressures rather than voluntary accountability. This gap underscores the need for global convergence of reporting standards that equally emphasize environmental, social, and justice-oriented dimensions of sustainability accounting.

The potential integration of disaster accounting, climate change disclosure, and climate justice into global sustainability frameworks could have transformative implications for both policy and corporate accountability. From a policy perspective, convergence

toward integrated frameworks would not only enhance comparability and reliability across jurisdictions but also embed equity considerations within international accounting standards. This would push regulators to move beyond narrow financial risk metrics and mandate disclosures that capture distributive impacts, community vulnerability, and long-term resilience, thereby informing more inclusive climate policies.

For corporate accountability, the incorporation of climate justice into reporting frameworks would reshape how firms define materiality and responsibility. Instead of viewing sustainability reporting primarily as an investor-facing exercise, companies would be compelled to acknowledge their obligations to communities, workers, and future generations. This would reduce selective disclosure practices by requiring firms to account for both financial and social dimensions of climate risks, narrowing accountability gaps. In turn, corporations would face stronger incentives to align their strategies with principles of equity and resilience, enhancing legitimacy in the eyes of stakeholders and reinforcing the role of accounting as a driver of sustainable development rather than a mere compliance mechanism.

It is important to note, however, that these findings apply primarily to the firms and regions sampled. While the results provide valuable insights into global trends, they should be interpreted with caution when generalizing to all industries or geographical contexts. Broader studies with larger and more diverse samples would further validate and extend the conclusions drawn here.

RECOMMENDATIONS

Based on the findings, this study recommends that international standard-setting bodies such as the ISSB, IASB, and GRI integrate disaster accounting and climate justice into unified sustainability disclosure frameworks to enhance comparability and decision-usefulness. Developing countries should be supported through technical training and institutional capacity building to improve the reliability and consistency of reporting. In addition, industries with significant environmental footprints particularly energy, manufacturing, and agriculture ought to adopt stricter disclosure guidelines to strengthen transparency. Firms should also deepen stakeholder engagement by involving communities, policymakers, and investors to embed climate justice perspectives into reporting. National

governments are further urged to enforce mandatory sustainability reporting requirements that are harmonized with global standards, thereby fostering accountability, credibility, and comparability across jurisdictions.

Future research should extend these findings by employing primary data collection methods such as interviews and surveys with corporate managers, regulators, and community stakeholders to capture perspectives not visible in secondary reports. Longitudinal studies tracking disclosure practices over time would also provide insights into whether improvements in disaster accounting and climate justice reporting are sustained or merely compliance driven. Moreover, comparative analyses across a larger sample of industries and regions could test the robustness of these results and highlight sector-specific or cultural differences in reporting practices. Finally, experimental and case study approaches could help identify best practices in embedding equity and resilience into corporate disclosure frameworks, thereby contributing to both scholarly debates and policy reforms.

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