Integrating ESG Accounting in Higher Education: A Longitudinal Case Study at Mbarara University of Science and Technology, Uganda

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Abstract

Despite increasing recognition of environmental, social, and governance (ESG) considerations among Uganda's government ministries, departments, and agencies (MDAs), public universities in the country still lack a systematic and transparent framework for managing ESG-related issues. This gap weakens institutions' capacity for sustainability engagement and undermines accountability mechanisms. The study asks: To what extent do national regulations and global standards shape ESG implementation in higher education (HE) institutions? This study employed a longitudinal case study design of Mbarara University of Science and Technology (MUST), a public university in Uganda, to examine financial reports, institutional records, and policy documents covering the 2020/2021 to 2024/2025 financial years (FYs). Five ESG-related themes and their corresponding sub-themes emerged from the analysis and were subsequently examined in greater depth. The study also included insights from 172 students and 18 faculty members, gathered through interviews and a questionnaire. Overall, the findings indicate that ESG accounting at MUST is still in its early stages, marked by weak categorisation

and limited institutional integration. The study addresses a critical gap in research on ESG accounting. Aligned with the National Development Plan IV (NDP IV) and Sustainable Development Goal 4, it promotes inclusive and equitable quality education while advocating for ESG issues to be embedded in university governance, strategic planning, management, and accountability frameworks. This study concludes by advancing an ESG accounting framework that operationalises sustainability reporting within the HE sector.

Keywords: *Environmental, social, and governance; ESG accounting; Higher education; Uganda.*

Introduction

Integrating environment, social, and governance (ESG) factors into accounting and financial management is now crucial for organisations seeking to achieve sustainability and transparency (Nnam et al., 2025; Simmons et al., 2024; Zioło et al., 2019). Globally, ESG frameworks promote accountability, stakeholder trust, and alignment with sustainability goals. In Uganda, ESG accounting in HE institutions (HEIs) remains limited and fragmented. Underdeveloped practices weaken reporting, stakeholder engagement, and decision-making (Liang, 2004). Though the Public Finance Management Act (2015) mandates gender and equity responsiveness, ESG reporting remains incomplete. Regulatory frameworks offer a foundation, but actual implementation is inconsistent. MUST achieved notable progress in gender and equity compliance, climbing from 33% in 2017/18 to 76% in 2021/22 (Kavuma et al., 2019). The integration of ESG principles within governance, reporting, and operations practices remains fraught with challenges (Musana & Bisaso, 2024; Sutherland, 2003). Despite universities' roles in workforce development and community impact, ESG research has focused mainly on commercial sectors, neglecting the non-profit HE context (Tushabomwe-Kazooba & Kakuru, 2015). This absence of standards and limited technical capacity hinders performance tracking and policy alignment.

This study examines ESG accounting at MUST, a university known for practical education and community focus. We investigate how ESG principles are integrated into financial and non-financial systems, shaped by stakeholder perceptions, regulatory influences, and sustainability objectives, as well as mechanisms for measurement and improvement. Using a longitudinal case study, the research supports both institutional sustainability and the United Nations' Sustainable Development Goal (SDG) 4, which emphasises inclusive and quality education (UN ECOSOC, 2020). It aims to address a key knowledge gap and inform ESG practice in Ugandan HEIs. The remainder of the paper has a literature review in Section 2, a methodology in Section 3, quantitative results and qualitative findings in Section 4, a discussion in Section 5, and recommendations in Section 6.

Literature Review

The growing global emphasis on sustainability and the United Nations' SDGs has amplified the relevance of ESG accounting within HEIs (Findler et al., 2018; Sanches et al., 2023). In response, universities are increasingly embedding ESG principles into their core functions – teaching, research, governance, and community outreach – reflecting a broader institutional shift documented across recent scholarship. Curriculum reform through interdisciplinary approaches incorporates sustainability and ethical governance topics across fields of study (Brundiers et al., 2021). These are sometimes implemented through experiential learning strategies, including service-learning and community-based projects, which enable students to apply theoretical knowledge to real-world sustainability issues (Holst, 2023). Research increasingly targets ESG themes, often through specialised centres. The Institute of Tropical Forest Conservation (ITFC) at MUST is an example of such initiatives (Bitariho & Babaasa, 2022). Universities also partner with communities and Non-Governmental Organisations (NGOs) to co-create solutions (Babalola & Olawuyi, 2021). However, in the Global South, ESG accounting faces barriers including limited resources, weak regulation, and poor engagement (Dyer & Dyer, 2017). In Uganda, while frameworks such as the Public Finance

Management Act (PFMA) (2015) have improved financial accountability, the integration of ESG dimensions into institutional accounting and reporting remains fragmented and poorly standardised (Asiimwe & Steyn, 2014; Asiimwe & Steyn, 2013). MUST presents a unique case for exploring ESG integration due to its community engagement model, international research partnerships, and growing sustainability agenda. This study seeks to bridge knowledge gaps by critically examining ESG accounting practice within MUST, assessing stakeholder attitudes, regulation effects, and the measurement framework for a five-year period.

The perceptions of stakeholders, including students, faculty, and administrators, greatly influence ESG uptake (Leal Filho et al., 2020; Lozano et al., 2013). Students increasingly expect ESG content and action (Brundiers et al., 2021; Godemann et al., 2014). As a result, student-led activities have often driven the integration of ESG concerns within curricula, co-curricular programmes, and campus activities (Damiyano & Mago, 2023; Nhamo & Chapungu, 2024). Faculty members, on the other hand, influence ESG uptake through both their pedagogical choices and research priorities. Recent studies indicate growing faculty interest in integrating ESG themes into teaching and interdisciplinary research (Alenezi & Alanazi, 2024; Mulili & Wong, 2011). However, this interest is often affected by structural challenges, including limited institutional incentives, inadequate training, and a lack of alignment between ESG goals and academic performance metrics (Figueiró & Raufflet, 2015; Stewart et al., 2022). Administrators recognise ESG's value for compliance, reputation, and funding (Asiimwe & Steyn, 2013), yet efforts often remain fragmented (Damiyano & Mago, 2023). In Uganda, limited funding and bureaucracy further constrain engagement (Asiimwe & Steyn, 2014). ESG awareness varies across units, with some showing commitment and others lacking capacity (Awuor, 2023). Multidisciplinary backgrounds also affect ESG adoption. For example, environmental scientists may engage readily, while finance or humanities faculty may need tailored approaches (Pedro et al., 2020).

Uganda's PFMA (2015), Equal Opportunities Commission (EOC) Act (2007), and NDP IV (2025) promote accountability but do not mandate ESG accounting or institutionalised reporting in universities.

ESG adoption is often project-based, not institutional, and studies show that universities are lacking in adhering to international ESG standards because of a lack of technical expertise and leadership prioritisation (Asiimwe & Steyn, 2014; Asiimwe & Steyn, 2013). At the institutional level, MUST meets compliance standards, but ESG disclosures, including gender, environment, and community, are scattered. This is intensified by national frameworks that lack incentives for integrating ESG in HEIs' planning and reporting (Ssentongo & Byaruhanga, 2015). This study explores how regulation shapes ESG at MUST and related challenges.

HEIs are expected to align ESG with national and global goals, including SDGs. However, low institutional capacity, weak data systems, and a lack of frameworks limit coherence. At MUST, ESG efforts follow national policy but lack a unified strategy. This study examines how ESG activities can be more effectively integrated with Uganda's development priorities to support sustainable development. Effective ESG measurement in HEIs supports accountability and improvement, monitors sustainability performance, and ensures compliance with global reporting standards. The use of these global frameworks, including the GRI (2016) and IFRS (2023) sustainability standards, ensures consistency and comparability (KPMG, 2020). Additionally, stakeholder engagement and feedback loops enhance learning and transparency (Ceulemans et al., 2015; Lozano et al., 2013). Despite their potential to substantially improve ESG reporting, these practices remain largely underutilised in Uganda.

While ESG accounting is gaining wide adoption in HEIs globally, implementation in Uganda remains fragmented. Although frameworks like EOC (2007), PFMA (2015), and NDP IV (2025) promote transparency, ESG-specific structures are lacking. Stakeholder engagement, data systems, and capacity vary. Adopting global standards, fostering inclusive participation, and enabling continuous improvement can strengthen ESG in Ugandan universities. This study adopts MUST, a public university, as a case study to investigate the evolution of ESG within HE contexts. Thus, this study introduces an ESG accounting framework for HEIs, offering transferable insights into sustainability reporting and governance. Building on the introduction and literature review, the overarching objective of this study is: To evaluate the application of

global sustainability reporting standards and data systems in MUST's ESG measurement, and to develop a refined ESG accounting framework for HEIs. Following the overall objective of the study, the central research question is: To what extent do national regulatory frameworks and global sustainability standards influence the implementation, reporting, and institutionalisation of ESG practices in HEIs?

Methodology

Research approaches

The study employed a mixed methods approach integrating both quantitative and qualitative techniques (Ahmed, Pereira & Kimberly, n.d.). The quantitative component was used to measure longitudinal changes in ESG accounting integration. The qualitative component complemented this by capturing perceptions, experiences, and contextual factors through interviews, focus group discussions, and document analysis. Together, these approaches provided a comprehensive understanding of both the measurable outcomes and the underlying dynamics of ESG accounting integration at MUST. The integrated perspective highlighted how methodological rigour and ethical responsibility intersected to strengthen the validity of findings.

Research design

This study employed a longitudinal case study design to investigate the adoption of ESG accounting in MUST. An et al. (2017) demonstrate the capability of longitudinal case studies to trace the evolutionary development of sustainability practice in public universities well, placing them as the best methodological framework for this study. Furthermore, Andrades et al. (2025) illustrate how collecting data at multiple points in time-through interviews, document analysis, and other methods, helps uncover how institutions respond to external pressures. Guided by this approach, this study aims to explore the adoption of ESG practices within the context of a Ugandan public university.

Study area

MUST, established in 1989, presents a compelling yet under-examined case for ESG accounting in Uganda's HE sectors. MUST is a public

university grounded in the Community-Based Education Research and Service (COBERS) model, with 60 active community sites across Uganda (Naali, 2021). It is widely recognised for its socially responsive mission and for sustaining 96 substantial international research collaborations (https://www.must.ac.ug). However, despite this reputation, the university's rapid institutional growth, expansive research funding stream, and broad societal engagement raise critical questions about its internal ESG accountability mechanisms. From an environmental perspective, MUST's involvement in renewable energy and agricultural innovations positions it as a key player in sustainable development. However, it remains unclear how the university accounts for its own environmental footprint, including energy use, waste management, and compliance with sustainability practices, particularly in field-based programmes that may have ecological implications.

Socially, while COBERS promotes community engagement and problem-solving, there is a lack of empirical data on how social impact is measured, reported, or integrated into institutional planning. This encompasses domains such as equity, diversity, and inclusion, ethical leadership, and the long-term social effects of student-community interactions. In terms of governance, the university's success in securing global grants and managing international partnerships suggests robust institutional capacity. However, it also raises concerns about transparency, accountability, and alignment with global ESG standards, such as the Global Reporting Initiative (GRI) or the IFRS Sustainability Disclosure Standards. The implementation of governance policies across academic and administrative units remains a subject of ongoing debate and examination.

Study population

The study focused on academic staff, administrative personnel, and students at MUST, as these groups are central to the design, implementation, and experience of ESG-related policies and practices. Academic and administrative staff are responsible for strategic planning, financial oversight, and operational management, while students serve as key beneficiaries and critical evaluators of the institution's ESG commitments (Godemann et al., 2014; Lozano et al., 2013). The study

covered the five financial years from 2020/2021 to 2024/2025, a period marked by significant institutional growth. During this time, MUST expanded both local and international partnerships, enhanced its research and grant portfolio, and experienced a steady increase in student enrolment, including a rise in the number of international students. Notably, international student enrolment continues to increase, reaching an average of 129 students per academic year. The events provided a comprehensive context for assessing the integration and effectiveness of ESG accounting practices within the university.

Sampling strategy

Data collection was carried out over five months, from January to May 2025, during the second semester of the academic year 2024/2025. We targeted three key respondent categories: academic staff involved in accounting education, administrative staff overseeing financial accounting and reporting functions, and students at both undergraduate and postgraduate levels. A purposive sampling technique was employed (Nyimbili & Nyimbili, 2024) to identify and select departments demonstrably engaged in ESG-focused academic programmes and/or sustainability-related activities. Within these departments, faculty members were selected based on their involvement in curriculum development or delivery of ESG or related content. At the same time, students were drawn from third-year undergraduate and master's cohorts to ensure exposure to core accounting content. The final sample consisted of 190 participants, including 18 staff and 172 students. This sample size ensured representativeness while maintaining the manageability required for in-depth analysis, particularly in the qualitative component.

Data collection instrument

Structured questionnaires gathered quantitative data on demographics, ESG exposure, curriculum, and resources, while interviews, focus groups, document reviews, and financial report analysis provided qualitative and financial insights. Triangulation, standardised procedures, member checking, and audit trails ensured validity, reliability, and trustworthiness, yielding a credible account of ESG integration.

Data quality control

Data quality control was ensured through systematic validation of financial records, institutional documents, and policy reports. Validity was ensured through alignment of instruments with objectives, pre-testing, and triangulation of surveys, interviews, and records. Reliability was maintained via standardised procedures, clear coding, and repeated checks across study phases. Trustworthiness was strengthened through member checking, peer debriefing, and audit trails, collectively enhancing the credibility and authenticity of findings on ESG accounting integration at MUST.

Data management

Collected data was coded and analysed using SPSS version 25, employing descriptive statistics to provide measurable insights into institutional capacity and individual readiness for sustainability reporting. Open-ended questions provided insights into the perceptions, motivations, and recommendations of participants in connection with ESG education. A thematic content analysis using Braun and Clarke's (2006) six-step approach identified topics such as curriculum integration, ethical growth, professional relevance, institutional limitations, and resource shortages. By integrating quantitative metrics with qualitative insights, the study illustrates how ESG principles inform pedagogical practices and are operationalised within institutional management and accountability frameworks, thereby providing a comprehensive perspective on sustainability in HE. Our study themes and sub-themes were derived from MUST's annual reports for 2022 to 2024 and MUST's Strategic Plans (2020/21–2024/25 and 2025/26–2030/31) (https://www.must.ac.ug). The emergent themes and sub-themes from ESG accounting analysis include environmental stewardship and greening the campus, social equity and inclusion, community and stakeholder engagement, innovation and capacity building, governance, accountability, and strategic alignment.

Ethical considerations

Ethical considerations were observed throughout the study by ensuring confidentiality of institutional records, securing informed consent for the use of documents, and adhering to established research integrity

standards. Building on these measures, formal ethical approval was secured from the Research Ethics Committee (REC) of MUST, under approval reference number MUST-2024-1328, and informed consent was obtained from all participants. Anonymity and confidentiality were guaranteed throughout the study process.

Findings

Quantitative results

The quantitative findings are presented to demonstrate measurable patterns and statistical relationships in ESG implementation, reporting, and institutionalisation within HE.

Environmental accounting

This study identified key environmental indicator areas, indicators, and units of measurement (Table 1). The university made steady progress in energy efficiency, water conservation, and inclusive infrastructure, with increased use of renewable energy and improved accessibility. However, waste management data remained largely untracked.

Table 1: *Environmental performance for MUST (FY 2020/2021 – FY 2024/2025)*

Indicator Area	Indicator	Unit of measurement	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025
Energy use	Energy consumption	kWh	867802	964,224	1,071360	1,190,400	1,322,667
	Renewable energy sources	%	60	60	70	70	70
	Fossil fuels – gas and diesel	%	40	40	30	30	30
	Buildings with energy-saving devices	%	50	50	60	65	78
	Energy cost per student	UGX	82,585	82,585	91,762	101,957	113,286
Water management	Water use per capita	UGX/capita	49.201	51,211	53,970	63,196	63420
	Buildings with water-saving devices	%	20	30	40	40	40
	Water consumption	Cubic metres/year	39.361	46,090	53,970	63,196	78,000
Waste management	Solid waste generated	Tons/year	q				
	Solid waste recycled	%					
	Water recycled	%					
	E-waste properly disposed of	Tons/year					
	Laboratory waste compliance	Yes/No	no				

Green campus initiatives	Trees planted/year	Number	-	2500	10,000	300	400
	Green space coverage	%	90	90	90	85	80
	Environmental programmes run	Number/year	Various	Various	Various	Various	Various
Inclusive infrastructure	Buildings with ramps	%	38	38	38	38	50
	Costs of installing ramps and accessible toilets	UGX/year	q				
	Parking space for PWDs	Number	Not available				
	Accessible toilets for PWD	Number	16	16	16	16	22
	Compliance with national disability standards	% met	10	10	20	20	30
	% capital development budget for accessibility	%	1	1	2.84	3.15	3.5
***Note**: q denotes not quantifying or tracking the environmental indicator area*							

Source: University records; key informant interview with the University Engineer

Table 1 provides an overview of MUST's environmental accounting performance over the five years. First, energy reported consumption increased steadily from 867,802 kWh in FY 2020/2021 to 1,322, 667 kWh in FY 2024/2025, yet the proportion of renewable energy source rose from 60% to 70%, accompanied by a significant expansion of energy-saving devices in buildings (from 50% to 78%), indicating a partial decoupling of energy demand growth from fossil fuel reliance. Second, there is the inclusive infrastructure. Investments demonstrated progressive improvement, with accessible toilets for persons with disabilities (PWDs) rising from 16 to 22 units, and compliance with national disability standards increasing from 10% to 30% between FY 2020/2021 and FY 2024/2025, supported by a growing allocation of the capital development budget for accessibility (from 1% to 3.5%). Third, governance of sustainability initiatives reflected mixed outcomes: while green campus programmes maintained high green space coverage (90%, declining slightly to 80%) and tree planting peaked at 10,000 in FY 2022/2023, weak monitoring of waste management indicators (solid waste, recycling, and e-waste disposal not quantified) and persistent non-compliance in laboratory waste handling highlight gaps in environmental governance and accountability systems.

Social accounting

This section outlines the findings from an analysis of the university's financial reports, with particular emphasis on various social investment expenditures (SIE). Table 2 presents the analysis findings, structured into three overarching thematic categories. These categories include: student welfare (SW), which includes spending on health services, housing, and mental health support; gender, equity, and inclusion (GEI) initiatives; and community outreach programmes (COPs), such as medical camps and technology training for underserved populations. Drawing on these details, we subsequently computed the total social investment expenditure (TSIE). Findings indicate that

Table 2: *Social investment expenditure at MUST (UGX) (FY 2019/2020 – FY 2023/2024)*

FY	SW	GEI	COP	TSIE	% of TSIE
2019/2020	1,167,426,000	32,574,000	203,556,000	1,403,556,000	3.1
2020/2021	626,418,000	20,417,000	593,212,000	1,240,047,000	2.4
2021/2022	1,053,460,000	36,100,000	693,107,000	1,782,667,000	3.3
2022/2023	1,873,944,064	22,000,000	767,436,345	2,663,380,409	4.7
2023/2024	1,203,616,466	25,300,000	986,082,259	2,214,998,725	3.9

Data source: MUST internal budgets, annual operating reports (https://www.must.ac.ug).

MUST's SIE increased overall between FY 2019/2020 and FY 2023/2024, with SW consistently dominant, COP progressively rising, and GEI remaining comparatively minimal, contributing between 2.4% and 4.7% of total university expenditure.

Governance accounting

This section presents the quantitative findings on governance accounting, highlighting accountability, transparency, compliance, and council oversight. The analysis is informed by an initial review of the legal and regulatory frameworks that structure university governance. The Universities and Other Tertiary Institutions Act (2001, as amended 2021) outlines the supervisory responsibilities of University Councils in relation to the institutional governance and accountability framework. Studies show that strong audit systems and procurement accountability enhance public trust and institutional performance (Nkundabanyanga et al., 2019; Olum, 2014; Otalor & Modugu, 2025). We analysed statutory procurement audits conducted by the Public Procurement and Disposal of Public Assets Authority (PPDA) (Uganda, 2003), and governance reforms implemented over the past five financial years. A review of the university's annual reports supplemented the analysis. As a public institution, MUST is audited by the Office of the Auditor General (OAG) or its agents. Table 3 presents the findings, organised into four key themes: audit compliance (AC), financial transparency (FT), procurement

oversight (PO), and governance reforms (GR). The table highlights governance-related indicators at MUST from FY 2020/2021 to 2024/2025, showing consistent unqualified audit opinions, medium financial transparency, moderate procurement oversight, limited governance reforms, and no ESG disclosure.

Table 3: *Governance-related indicators at MUST*

Financial Year	AC	FT1	PO (n)	GR (n)	ESG Disclosure (Y/N)
2020/2021	Unqualified opinion	Medium	5	2	N
2021/2022	Unqualified opinion	Medium	6	2	N
2022/2023	Unqualified opinion	Medium	6	2	N
2023/2024	Unqualified opinion	Medium	6	4	N
2024/2025	Not yet externally audited	Medium	4	3	N
Source: MUST 5-year annual reports analysis					

Gender distribution of survey respondents

The overall ESG framework links accounting education to issues of equity, sustainability, and governance. The survey findings align with this perspective, as reflected in the gender distribution of study participants. Among staff (n = 18), 55.6% were male and 44.4% female; among students (n = 172), 51.7% were male and 48.3% female. The results reflect the social dimension of ESG, with near gender balance among students but continued male dominance among teaching staff.

Educator qualifications and exposure

Figure 1 shows that the majority of ESG educators were master's degree holders (72%), then bachelor's degree holders (17%), and PhD holders (11%). Exposure to ESG was generally low: 67% of bachelor's and 54% of master's holders reported no exposure, and all PhD holders reported low exposure only. Moderate experience was rare (8% of master's holders). No high exposure was reported. The results indicate an institutional capacity gap in embedding ESG-related content within accounting education.

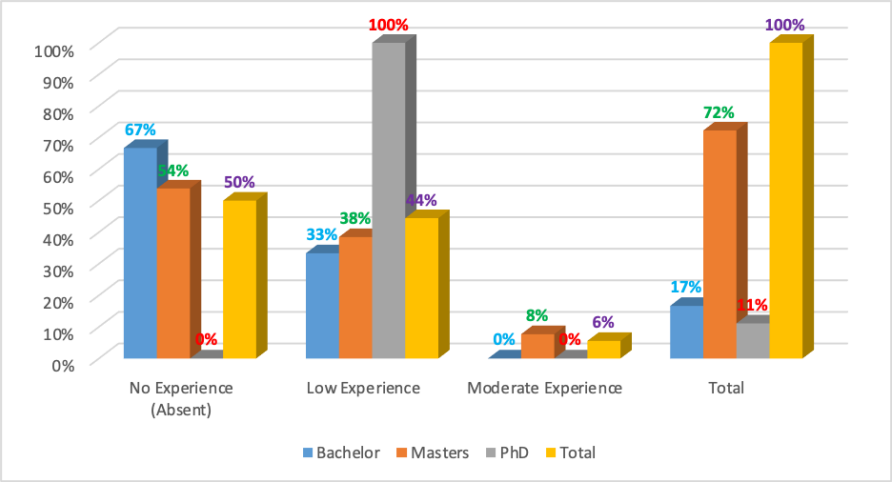

Figure 1: Educators' highest qualification and corresponding ESG teaching experience levels (n = 18).

ESG teaching ability

While Figure 1 shows that ESG teaching exposure was minimal in reality for all qualification levels, Table 4 reveals that educators nevertheless assessed themselves as moderate (44.5%) or low (33.3%) in their ESG teaching capacity, and that 11.1% rated themselves as very competent. In every category, academic staff were interested in being more competent in teaching ESG, showing a common need for professional development. Analysis of variance further revealed a significant effect of education level on perceived ESG teaching ability, $F(2,15) = 4.26$, $p = 0.034$, indicating uneven delivery capacity for ESG-related accounting content with limited technical expertise but clear demand for professional growth.

Table 4: *Current ability level in teaching ESG and desired ability levels (number/percentage)*

		Desired ability level in teaching ESG			Total
		Moderate	High	Very High	
Current ability level in teaching ESG	Absent	1(50.0)	1(50.0)	0(0.0)	2(11.1)
	Low	1(16.7)	2(33.3)	3(50.0)	6 (33.3)
	Moderate	0(0.0)	2(25.0)	6(75.0)	8(44.5)
	High	0 (0.0)	0(0.0)	2(100.0)	2(11.1)
Total		**2(11.1)**	**5(27.8)**	**11(61.1)**	**18(100.0)**

Student knowledge

Table 5 shows that 65.1% and 23.8% of students rated their existing knowledge as moderate and high, respectively. More than 80% across all groups desired to attain high or very high levels of competence in ESG. A chi-square test confirmed a significant association between actual and desired knowledge levels, χ^2 (6, N = 172) = 18.47, p = 0.005, reflecting demand for ESG content as part of learning among students.

Table 5: *Current knowledge in ESG and desired knowledge levels*

		Desired knowledge level in ESG – n (%)				Total
		Low	Moderate	High	Very High	
Current knowledge in ESG	Low	1(5.9)	2(11.8)	8(47.1)	6(35.2)	17(9.9)
	Moderate	0(0.0)	18(16.0)	45(40.2)	49(43.8)	112(65.1)
	High	0(0.0)	4(9.8)	12(29.3)	25(60.9)	41(23.8)
	Very High	0(0.0)	0(0.0)	0(0.0)	2(100.0)	2(1.2)
Total		**1(0.6)**	**24(13.9)**	**65(37.8)**	**82(47.7)**	**172(100)**

Resource availability is also depicted in Figure 2. Among staff, 44.4% indicated a lack of access to textbooks, while 33.3% reported no access to journals. Within the students, 24.4% reported no access to journals, and only 3.5% reported very high access to textbooks. Access to e-library resources was also reported as low, with nearly 30% of staff and students reporting no access. Regression analysis revealed that resource availability explained 18% of the difference in variation in students'

perception of ESG relevance ($R^2 = 0.18$), indicating a significant gap in ESG resource provision for both staff and students.

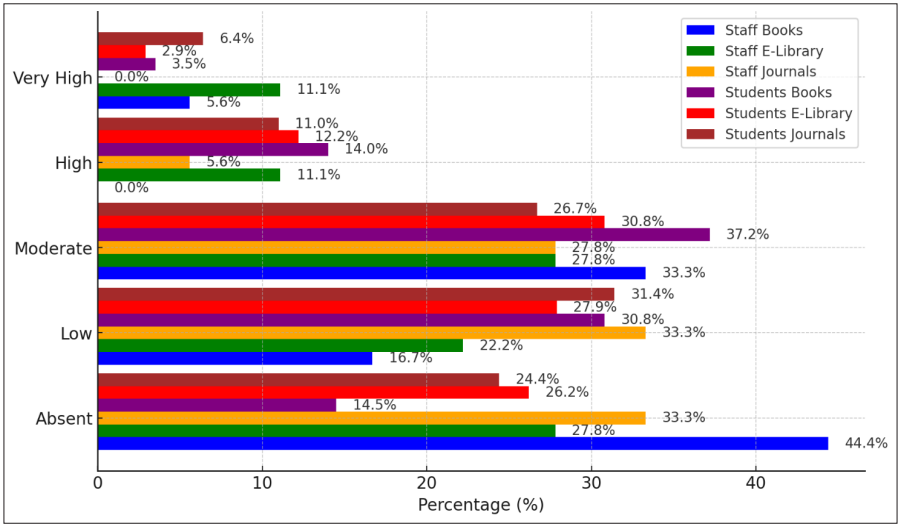

Figure 2: Availability of ESG resources

Curriculum integration

While 55.6% of respondents identified some ESG-related courses, these were neither timetabled nor standardised, and 33.3% reported no coverage at all. In most cases, ESG appeared only as fragments within broader subjects, reinforcing its marginal status in accounting education and highlighting the need for deliberate, standalone inclusion to meet emerging education standards.

Perceptions of ESG education

As shown in Table 6, students and staff agree that ESG enhances the awareness of ESG issues (students: M = 4.43, SD = 0.87; personnel: M = 4.22, SD = 1.21) and ethical awareness (students: M = 4.21, SD = 1.13; personnel: M = 4.28, SD = 0.67). Students valued career application more (M = 4.23, SD = 1.11) than staff (M = 3.61, SD = 1.29), while staff directed more criticism at ESG's ability to keep pace with business practice (M = 3.94, SD = 1.30). Both groups expressed concern regarding access to resources (mean scores 3.7–3.8) and concurred that employers perceive the provision of ESG education in universities as insufficient (mean ≈ M =

3.7). Different priorities also emerged: students reported the prominence of ESG in journals (M = 3.79, SD = 1.23), while staff emphasised its general applicability (M = 4.17, SD = 1.04) but challenged its academic rigour (M = 3.00, SD = 1.68). These perceptions underscore the importance of ESG as a critical component of education, although its integration into current curricula remains limited.

Table 6: *Comparison of student and staff perceptions of ESG education*

Statement	Students (M, SD)	Staff (M, SD)
Awareness of social/environmental obligations	4.43 (0.87)	4.22 (1.21)
ESG's impact on moral/ethical awareness	4.21 (1.13)	4.28 (0.67)
ESG relevance to future career	4.23 (1.11)	3.61 (1.29)
ESG is not seen as essential in accounting	3.31 (1.38)	3.06 (1.47)
ESG education is not keeping pace with practice	3.39 (1.24)	3.94 (1.30)
Difficulty in accessing ESG materials	3.77 (1.25)	3.78 (1.52)
Employers find ESG content inadequate	3.75 (1.23)	3.72 (1.49)
ESG materials reflect social/environmental values	3.80 (1.23)	3.22 (1.63)

Qualitative findings

Open-ended responses underscored the need for both conceptual understanding and practical application of ESG. The dominant message was for both fundamental knowledge and practical application. Others simply wanted to "know what ESG is" (Student_24) or referred to the "need for more knowledge" (Student_68). Employees concurred that although undergraduate students need a simple introduction, graduate students ought to be interacting with sustainability reporting and regulatory structures that would articulate the environmental and governance elements of ESG. The responsibility and ethics theme, which is closely linked to ESG, was also prominently displayed. **Students**

used phrases such as "being socially responsible to the environment" (Student_93) and to "learn how to account for human beings' and industries' externalities on the environment" (Student_5). Staff emphasised the need for students to understand businesses' broader societal impact, as well as the importance of practical ESG knowledge, particularly in governance accountability and transparency. Students wanted, according to one, "accounting skills on ESG" (Student_88), or "understanding of environmental-related concepts is essential for sustainable development" (Student_78).

Concerns about employability and career opportunities were also noted. Students associated ESG with future employability in consultancy, governance, and sustainability roles. One said, "ESG can be used in my future career of learning the environmental responsibilities for different corporations" (Student_26). Faculty agreed with the necessity for professional experience, but remarked that sustainability professions are not as formal as traditional accounting. Others connected ESG with entrepreneurship. "ESG will assist in reinforcing my business management and making me accountable" (Student_31), said one respondent. However, staff acknowledged that the bulk of content was still corporate-oriented, with little that was specific to small businesses.

Respondents also provided recommendations for enhancement. The loudest call was for curriculum reform, locating ESG as a central component of education. The majority of respondents believed that ESG should be offered as a standalone course rather than being embedded within existing courses. "ESG is a new subject and needs advocacy to be taught as a standalone course" (Staff_4a), expressed one of the lecturers. Others wanted it to be compulsorily included in every business course (Student_62). Resource shortages, directly limiting social equity in ESG studies, were the second most cited issue, with calls for more access to textbooks, journals, and websites "increase ESG books and digital resources in the library" (Student_59), and to "hire qualified lecturers" (Student_7). Stakeholder involvement, one of the essential elements of ESG governance, was also emphasised, with students and staff alike referring to the importance of involving professional bodies and regulators for increased adoption: "ESG should involve all stakeholders

for better adoption" (Staff_6). Finally, more awareness was called for, with a student emphasising that "awareness about ESG should be increased and its objectives highlighted" (Student_64).

Discussion

The upward trend in renewable energy adoption and installation of energy-saving devices reflects a growing institutional commitment to energy efficiency, although rising energy costs per student highlight the need to improve consumption management strategies (Table 1). While infrastructure for inclusion and water conservation is expanding, the absence of comprehensive waste management data indicates gaps in long-term environmental planning and management. The university's socially responsible investments steadily increased over the five-year study period (Table 2). The largest category, student welfare, grew from UGX 1.16 billion in 2019/2020 to UGX 1.87 billion in 2022/2023 before it levelled off at UGX 1.20 billion in the 2023/2024 financial years. This trend reflects a prioritisation of health, housing, and psychosocial support services. Also, the trend reflects the increasing role of welfare in advancing equity and productivity in learning, according to earlier studies on African HE (Banya & Elu, 2001; Mhlanga, 2021). Spending on gender equity and inclusion programmes also rose steadily, in alignment with country-level gender mainstreaming policies and global commitment through SDG 5 (GRI, 2016). Community outreach, which increased from UGX 203.6 million in 2019/2020 to UGX 986.0 million in 2023/2024, was the most dynamic category, signalling MUST's increasing role in public health interventions and school-based collaborations. Yet, as in the case of most universities (Adams, 2017; Asiimwe & Steyn, 2014), reporting here remains input-oriented rather than outcome-oriented, limiting the tracking of beneficiaries or social impact.

Indicators of governance (Table 3) reflect incremental institutional improvement. Audit compliance was always graded as unqualified, procurement weaknesses declined from six occurrences in 2019/2020 to four in 2024/2025, and governance reforms, such as e-procurement systems and new internal audit sections, were embraced. Transparency ratings were also enhanced from "Low" to "Medium", in accordance with

research linking procurement reforms with public sector trust (Otalor & Modugu, 2025). However, the absence of consistent ESG disclosures in all the five years aligns with global evidence that governance reforms in HE are compliance-driven and not embracing sustainability or stakeholder responsibility (Christensen et al., 2015; Guthrie et al., 2020).

Survey and qualitative evidence underpin these institutional outcomes. Findings on gender distribution show acceptable equality among the students but continued male dominance among staff, an issue rampant in African universities (Mhlanga, 2021). Figures 1 and 2 show low staff exposure to ESG and inadequate teaching facilities, while Table 3 shows moderate-to-low teaching ability but strong intent to improve. Similarly, students' levels of competence (Table 4) confirm high levels of demand for ESG training, with more than 80% requesting greater competence. Perceptions information (Table 5) indicates that despite staff and students enjoying the role of ESG in ethical awareness and employability, curriculum integration gaps and employer recognition gaps continue to exist. These statistics align with appeals by Ambe et al. (2015) and Musana and Bisaso (2024) for more incorporation of ESG into curricula.

Taken together, the findings suggest that while MUST is progressively embedding ESG practices, the approach remains fragmented. Environment and social investments and governance reforms are evident, but without outcome-based reporting, stakeholder accountability, or systematic integration of ESG into the curriculum, ESG accounting risks are being treated as compliance rather than a strategic tool for institutional resilience (Andrades et al., 2025).

Strengths and limitations of the study

This study's primary strength lies in its longitudinal design, which facilitated examination of ESG accounting practices over five years (2020/2021–2024/2025). The mixed-methods approach enhanced the robustness of the findings. Additionally, the inclusion of diverse stakeholders ensured a comprehensive analysis of ESG accounting. Being a single case study, its findings may not be generalisable to all public universities in Uganda or beyond. Furthermore, access to complete and consistent ESG-related records, particularly in earlier years, was

sometimes constrained by weak documentation systems. Despite these limitations, the study provides a critical foundation for understanding ESG accounting in HE within the Global South context.

Conclusion and Recommendations

Conclusion

Given the multifaceted nature of ESG, including carbon emissions tracking, social responsibility, governance, and stakeholder engagement, balancing measurable indicators with contextual insights was critical and successfully achieved. Findings align strongly with enhancing University-Industry Linkages and Knowledge Transfer by supporting ESG indicators such as community engagement, sustainability partnerships, and governance structures. Universities that embed ESG accounting and reporting practices are positioned to advance inclusive education reforms, fostering graduates who are not only academically competent but also grounded in sustainability consciousness and social responsibility. The study further highlights the role of innovation, entrepreneurship, and start-up ecosystems in HE, emphasising governance of innovation hubs and social enterprises aligned with environmental goals. It highlights the critical role of transformative ESG research in advancing accountability, ensuring linked to public reporting, policy compliance, and sustainable development objectives. Overall, optimised ESG accounting practices contribute to improved educational quality and community development, promote business and technological innovation, advance gender equity, and foster social and environmental inclusivity. The study reveals spending and governance trends, identifies disclosure gaps, and provides actionable recommendations for integrated ESG reporting.

Recommendations

Mainstreaming ESG principles within Uganda's public universities and across MDAs requires an integrated institutions strategy. Embedding ESG frameworks into accounting and reporting systems, aligned with standards such as the Global Reporting Initiative (GRI) and the International Public Sector Accounting Standards (IPSAS), strengthens

transparency, accountability, and comparability. Equally, capacity building is indispensable, ensuring that staff involved in finance, planning, and academic functions possess the competencies needed to operationalise ESG practices beyond adoption, thereby advancing institutional credibility and sustainability. Additionally, academic faculty must be re-skilled to deliver ESG-focused content effectively. ESG should be embedded in accounting and business education, not as a standalone concept, but as the operational basis of ESG measurement and reporting. Building on the findings of this study, we propose a comprehensive ESG accounting framework (Table 7) tailored to MUST and adaptable for use by other public universities in similar contexts.

To complement this, academic curricula across all programmes should be reviewed and reoriented towards ESG-responsive learning outcomes, emphasising practical competencies, job-relevant knowledge, and real-world application. Within this reorientation, ESG Accounting should be positioned as the main pedagogical and technical entry point, equipping students with the skills to measure, report, and critically evaluate environmental and social impacts in line with governance standards. Soft skills development must be embedded into teaching and learning processes to prepare graduates for the demands of the modern workforce. Prioritising communication, innovation, critical thinking, self-directed learning, and adaptability is essential for embedding ESG principles in HE, while simultaneously fostering lifelong learning and enhancing employability. Furthermore, it is recommended that the university curricula of all programmes be fully aligned with ESG-based learning frameworks to ensure consistency and future relevance, with ESG providing the technical foundation for evidence-based reporting and accountability. To support the integration of ESG accounting in HE, a coordinated national initiative is essential. This should involve MDAs, EOC, and the Institute of Certified Public Accountants of Uganda (ICPAU) to harmonise ESG practices, enhance collaboration, and promote the sharing of best practices. As the accountancy regulator, ICPAU should help align curricula with ESG and uphold standards.

Table 7: *Suggested ESG Accounting Framework for MUST*

S/N	Category	Focus Area	Measurement Indicators
E	Environmental Indicators		
E1	Energy use	Campus energy consumption	Total kWh per year, % for renewable sources, energy cost per student
E2	Water management	Water conservation and efficiency	Litres of water used per capita, % of buildings with water-saving devices
E3	Waste management	Solid and laboratory waste disposal	Tons of waste generated, % recycled, e-waste disposal, compliance
E4	Green campus initiatives	Sustainability practices (e.g., tree planting)	Number of trees planted, % green space coverage, and environmental programmes run
S	Social Indicators		
S1	Student welfare	Health, housing, mental health, nutrition	Budget allocation per student, student-to-counsellor ratio, and number of clinics
S2	Gender, equity, and inclusion	Participation and access across demographics	Staff/students ratio, % staff/students with disabilities
S3	Community outreach – COBERS	Service to surrounding communities	Number of active COBERS sites, people served per year, and community feedback
S4	Staff and faculty welfare	Working conditions and development opportunities	% of budget for staff development, staff turnover/year, and staff satisfaction

S5	Research impact	Societal relevance of research	% of projects aligned to SDGs and NDP IV, community-based research publications
G	Governance		
G1	University Council oversight	Governance structure and activity	Number of council meetings/year, attendance rate, and composition diversity
G2	Financial and procurement transparency	Open and accountable financial and procurement practices	Availability of audited financials, procurement and disposal audits, internal audit reports, and time to publication post-audit
C3	Compliance and ethics	Legal and ethical adherence	Number of compliance breaches, existence of anti-corruption policies
G4	Stakeholder engagement	Participation in decision-making	Number of stakeholder forums, inclusion in strategic planning processes
G5	Strategic alignment	ESG integration into strategy and planning	ESG targets in the strategic plan, progress tracking, and review mechanisms

Source: Primary data gathered in this study

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