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Building Resilient Universities for Sustainable Development: An Integrated, Conflict-Sensitive Framework for Post-Conflict East African Higher Education

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Abstract

This study examines the integration of the Sustainable Development Goals (SDGs) into higher education institutions (HEIs) in post-conflict East Africa through a structured narrative and conceptual review of 103 distinct sources published from 2014 to 2024. The synthesis identifies underfunding, fragile infrastructure, uneven staff capacity, socio-cultural barriers and political instability as recurrent constraints. It proposes an integrated framework linking Institutional Theory, Transformative Learning Theory, Stakeholder and Helix Models, and the Whole-Institution Approach. The framework explains SDG integration as a sequence of organizational adoption, pedagogical internalization, ecosystem resourcing and institutional embedding, all modified by a post-conflict lens. The analysis translates this logic into resource-sensitive actions for governance, curriculum, partnerships, campus operations and peacebuilding. It recommends phased implementation that begins with low-cost focal structures, baselines, selected course pilots and problem-focused partnerships before expanding to institution-wide reforms. Transparent decision rules, conflict-of-interest disclosure, representative oversight, verifiable indicators and exit or maintenance plans are proposed to reduce elite capture, donor fragmentation and SDG-washing. HEIs can thereby strengthen their contributions to sustainable development, reconciliation and social cohesion while matching ambition to institutional capacity.

Keywords: Sustainable Development Goals; higher education; post-conflict; East Africa; Whole-Institution Approach; transformative learning; political economy; phased implementation

1. Introduction

The United Nations Sustainable Development Goals (SDGs) provide a global framework for addressing complex development challenges, from poverty and inequality to environmental sustainability and institutional resilience (Shesha & Singh, 2024; Abdalla et al., 2024). Among them, SDG 4 (Quality Education) is a fundamental driver of progress, strengthening human capital, innovation, and long-term socioeconomic development (Githui & Njuru, 2024). Higher Education Institutions (HEIs) have progressively evolved beyond their conventional academic mandate to serve as active agents of sustainable development, contributing through research, policy influence, community engagement, and institutional transformation (Telesford et al., 2024; Chung et al., 2024).

Globally, the role of Higher Education Institutions (HEIs) is increasingly understood to extend beyond teaching and research toward measurable societal contribution, often described as the university's "third mission" (Cembranel et al., 2024; Masina, 2024). In this study, that expanded mandate frames how post-conflict universities can support SDG implementation through curriculum, research, operations, and partnerships (Niemelä, 2024; Utami et al., 2024; Supriyanto et al., 2024). However, evidence from post-conflict settings indicates that translating this mandate into sustained practice remains uneven and under-explored.

In East Africa, countries such as Somalia, South Sudan, Rwanda, Burundi, and the Democratic Republic of Congo continue to rebuild amid fragile governance systems, constrained public financing, infrastructural disruption, social fragmentation, and uneven access to higher education (ElMassah et al., 2021; Molokova, 2021; Mayai, 2022; Abdullahi, 2023). Although national policies increasingly signal commitment to sustainable development, HEIs face persistent barriers related to institutional capacity, gender disparity, limited funding, and weak multi-sector partnership models (Poza et al., 2021; Nur & Barigayomwe, 2024; Mpia et al., 2022).

Regional policy frameworks also shape expectations for sustainability in higher education. At the continental level, the African Union's Continental Education Strategy for Africa (CESA 16-25) and the successor CESA 2026-2035 position higher education as a driver of skills development, social transformation, and inclusive growth, which reinforces macro-level legitimacy pressures on universities to demonstrate SDG-aligned impact. Within the Horn of Africa, IGAD's Regional Education Policy Framework similarly emphasizes coordinated approaches to education quality, equity, and system strengthening in fragile settings. These regional commitments provide an important policy backdrop for understanding why SDG integration in post-conflict HEIs is not only a technical exercise, but also a governance and legitimacy challenge (African Union, 2016, 2024; IGAD, 2020).

While research on SDG integration in universities is growing, three gaps remain significant. First, there is limited synthesis focused specifically on post-conflict HEIs in East Africa (Athanase, 2024; Mohamed, 2024). Second, few studies explain SDG integration using multi-level theoretical perspectives that capture institutional, pedagogical, and collaborative dynamics (Yatsenko, 2024; Khatter, 2024). Third, the literature offers insufficient context-appropriate institutional strategies tailored for higher education systems operating under fragility and resource constraints (Velankar et al., 2025; García et al., 2024). Despite growing interest in the SDGs and scattered institutional initiatives, there is no comprehensive, theory-driven synthesis that explains how higher education institutions in post-conflict East Africa adopt, adapt, and sustain SDG practices. Existing studies are fragmentary (country-case or single-institution), vary in conceptual focus, and rarely integrate multi-level theory with practical institutional strategies tailored to fragility. This gap constrains policymakers and university leaders who need consolidated, context-sensitive evidence to design effective SDG interventions under resource and governance constraints.

Guided by these gaps, this study examines how HEIs in East African post-conflict states engage with the SDGs by: (1) synthesizing evidence published from 2014 to 2024 on institutional SDG integration; (2) identifying key barriers and enabling conditions shaping implementation; (3) analyzing integration pathways through a multi-level theoretical framework that includes Institutional Theory, Transformative Learning Theory, Stakeholder/Helix Models, and the Whole-Institution Approach; and (4) proposing practical and context-responsive institutional strategies to strengthen SDG alignment across governance, teaching, research, operations, and community engagement.

This study advances the literature by offering the first regional synthesis centered on post-conflict East African higher education systems; applying an integrated multi-level theoretical lens to explain systemic enablers and constraints; and providing actionable, institution-level recommendations designed for universities operating in fragile and transitional environments. By situating SDG integration within broader post-conflict recovery and sustainable development imperatives, the study underscores the strategic role of HEIs as both development actors and institutional anchors for long-term resilience.

2. Literature Review

Conceptualizing the Role of HEIs in the SDG Era

The mission of universities has historically transformed from the Humboldtian ideal (an educational philosophy and model of the university inspired by the ideas of the Prussian scholar, civil servant, and explorer Wilhelm von Humboldt 1767-1835), which emphasized the unity of teaching and research, to a more multifaceted approach characterized by the emergence of the "entrepreneurial university." This change reflects a shift toward integrating social engagement and a commitment to public good, which is often referred to as the university's "third mission" (Yatsenko, 2024). The concept of the third mission encompasses a university's responsibility to actively contribute to societal development through collaborative efforts with local and global communities, extending beyond the traditional confines of academia (Васиньова, 2024). As universities become more involved in addressing societal challenges, they are increasingly seen as active agents in promoting social welfare rather than merely functioning as isolated intellectual enclaves (Gál & Pásztor, 2024).

Empirical studies suggest that this evolving mission enables institutions to utilize their resources and expertise to facilitate community engagement and social responsibility. By doing so, universities enhance their role as stakeholders in driving social change and fostering partnerships that align with the Sustainable Development Goals (SDGs) (Yatsenko, 2024). Moreover, integrating social responsibility concepts into the university framework creates a comprehensive approach to

encouraging sustainability amidst shifting societal needs (Supaat et al., 2024). This transformation requires a reassessment of academic strategies to ensure they adequately respond to the demands posed by an interconnected world.

From Environmental Sustainability to the Holistic SDGs

The evolution of academia's approach to sustainability illustrates a trajectory from a predominantly environmental focus to a more integrated perspective embodied by the SDGs. Initially, higher education institutions prioritized environmental management practices, such as developing green campuses and advancing research in environmental sciences (An, 2024). However, this limited scope has shifted to encompass a broader agenda that also includes social and economic sustainability, recognizing that environmental protection cannot be decoupled from socio-economic dimensions (Puthucherril et al., 2024).

The current framework of the SDGs requires a transformative approach that integrates various aspects of sustainability into higher education curricula and institutional practices. This necessitates institutions to adopt comprehensive strategies that not only prioritize environmental issues but also address social equity, economic viability, and institutional governance (An, 2024). For instance, universities are increasingly being encouraged to act as "living labs," where they apply sustainable innovations in real-world settings, reflecting the interconnectedness required to advance the SDGs (Supaat et al., 2024).

As highlighted by various studies, the ability to address complex sustainability challenges effectively hinges on fostering interdisciplinary collaboration among students, faculty, and external stakeholders (Sinaga, 2024). By promoting holistic practices that align with the 2030 Agenda, universities contribute to their internal objectives and play a significant role in fostering global progress toward sustainable development (Quaye et al., 2024). Thus, reorienting academic institutions toward a comprehensive SDG framework not only expands their mission but also enhances their relevance in today's society.

Prevailing Typologies of SDG Integration

The categorization of how Higher Education Institutions (HEIs) engage with the Sustainable Development Goals (SDGs) can often be distilled into a four-pillar model that encompasses Education/Teaching, Research, Operations/Governance, and External Leadership/Outreach. Each of these pillars identifies critical modes through which universities integrate sustainability into their frameworks.

Education/Teaching

The integration of SDGs into curricula and teaching practices is a critical pathway for HEIs. Education for Sustainable Development (ESD) forms a cornerstone for this typology, as it not only transforms educational content but also enhances pedagogy and assessment methods. Cembranel et al. (2024) emphasize that successful HEIs have embedded SDGs into their educational structures, effectively advancing social responsibility and environmental goals. This integration fosters a culture where students are educated on sustainability principles and are equipped to be proactive in their communities.

Moreover, the role of leadership in promoting sustainability through educational curricula is pivotal. Tomasella et al. (2024) argue that universities must recognize sustainability as a fundamental component across disciplines, enhancing staff capabilities and encouraging cross-disciplinary collaborations to facilitate transformative learning experiences. Institutions that embrace this focus on education inherently empower students, shaping future leaders' adept in sustainable practices (Pactwa et al., 2024).

Research

Research is a significant avenue through which HEIs contribute to the SDGs. Interdisciplinary, solution-oriented research aligned with specific goals can generate applicable knowledge and innovative responses. Saleh and Adly (2024) show that bibliometric assessment of research outputs can help scholars and policymakers evaluate how universities address sustainability challenges.

Furthermore, the work of Knorring et al. (2024) illustrates successful implementation examples in a medical university, showcasing the establishment of research centers and networks aimed at effective decision-making. This highlights that research activities are integral to fostering environments conducive to sustainability and improving campus operations through data-driven insights.

Operations/Governance

Sustainable campus management encompasses energy, waste, and water management practices within institutions, making Operations/Governance a crucial pillar for SDG integration. The comprehensive adaptation of universities to the principles of sustainable development necessitates a structural transformation that aligns institutional strategy, policy, and reporting

with the SDGs (Pactwa et al., 2024). Cembranel et al. (2024) further illustrate that executing sustainable practices on campus not only contributes to operational excellence but also positively impacts the community and the environment.

Additionally, Li et al. (2024) discuss the importance of developing sustainable governance structures in educational institutions, particularly in regions where there is a pressing need for enhanced sustainable development measures. Their findings suggest that operational changes within HEIs are essential for fulfilling their roles in achieving sustainability goals, thereby advocating for strategic planning toward sustainable campuses.

External Leadership/Outreach

External Leadership/Outreach emphasizes the engagement of universities with communities, industry, and policymakers. It involves knowledge transfer, partnerships, and public service initiatives that go beyond the academic setting. Wilhelm et al. (2024) identify various ranking systems measuring HEIs' performance against the SDGs, emphasizing the importance of external outreach and leadership in achieving broader sustainability impacts.

Additionally, the integration of sustainability objectives into institutional governance facilitates collaboration with external stakeholders. Ariawan et al. (2024) highlight the significance of partnerships that can leverage institutional capabilities to foster sustainable development at both local and global levels.

SDGs in Higher Education in Post-Conflict East Africa

Rwanda: higher education is a crucial driver for achieving the Sustainable Development Goals (SDGs), particularly SDG 4, with national policies emphasizing both universal access and the cultivation of skills that enhance life expectancy and quality of life, thereby supporting broader health and social objectives (Athanase, 2024). Educational reforms focus on developing critical thinking and problem-solving abilities to address complex challenges (Kioupi & Voulvoulis, 2020), while HEIs extend their mission beyond traditional academia by engaging in community-based projects that contextualize SDG themes and bridge academic knowledge with local needs (Molina et al., 2023). The integration of SDGs is further advanced through interdisciplinary curricula that promote sustainability and a comprehensive understanding of interconnected issues (Yemini, 2021). However, significant challenges persist, including difficulties in embedding SDGs into strategic frameworks due to limited resources and institutional capacity (Poza et al., 2021), underscoring the need for enhanced collaboration and the documentation of impact for continuous improvement (Ambariyanto & Utama, 2020). The establishment of assessment frameworks and benchmarks is vital for measuring contributions and guiding further development, ensuring HEIs can effectively support national and global sustainability objectives (Kioupi & Voulvoulis, 2020; Nhamo, 2021).

Comparatively, Rwanda illustrates how stronger central policy direction can accelerate SDG-oriented reforms, yet the literature still points to capacity and resourcing constraints that limit full institutionalization. The next case (Burundi) highlights similar curriculum ambitions under more constrained infrastructure and equity conditions.

Burundi: the assessment of SDGs in higher education reveals both significant progress and persistent challenges, with HEIs recognized as pivotal for advancing quality education (SDG 4) and partnerships (SDG 17) (Akçay et al., 2023; ElMassah et al., 2021). Efforts to integrate sustainability into curricula and institutional practices aim to foster critical thinking and enhance graduate competencies for societal resilience (Nordén, 2024; Rudahinyuka et al., 2023; Ferguson & Roofe, 2020), supported by the development of clear sustainability policies and innovative pedagogies like challenge-based learning (Kioupi & Voulvoulis, 2020; Molokova, 2021; Castro & Zermeño, 2020). However, the full realization of SDGs is impeded by barriers including issues of access for underprivileged groups and women, inadequate funding, limited infrastructure, and insufficient faculty training (Popelo et al., 2023; Molokova, 2021), highlighting an urgent need for strategic partnerships, capacity-building (Ding & You, 2022), collaborative networks for resource sharing (ElMassah et al., 2021), and leveraging MOOCs to democratize educational access (Galán et al., 2020).

Across Rwanda and Burundi, shared barriers include resource constraints, uneven faculty capacity, and persistent equity gaps. The following case (DRC) extends this comparison by showing how structural governance challenges and labor-market misalignment further complicate sustained SDG integration.

Democratic Republic of the Congo (DRC): the evaluation of Sustainable Development Goals (SDGs) in higher education in the DRC reveals a complex interplay of challenges and opportunities, where Higher Education Institutions (HEIs) are recognized as vital agents for sustainable development, particularly for SDG 4, a foundation critical for broader socio-economic progress (ElMassah et al., 2021; Molokova, 2021). While integrating sustainability principles can enhance employability and equip students with skills for societal needs (Mpia et al., 2022), and HEIs are crucial for fostering global citizenship (Akçay et al., 2023), the sector faces profound barriers including underfunding, inadequately trained faculty, and limited resources (Mpia et al., 2022), exacerbated by systemic issues like tribalism and preferential hiring that challenge achieving SDG 8 (Mpia et al., 2022; Mpia et al., 2023), creating a tenuous alignment with labor market demands (Castro & Zermeño, 2020). Consequently, innovative approaches like Challenge-Based Learning (CBL) are being

explored to foster real-world problem-solving (Castro & Zermeño, 2020), supported by calls for comprehensive policies (Popelo et al., 2023) and partnerships to enhance educational quality (Akçay et al., 2023; Wright et al., 2022), underscoring the need for continuous assessment to adapt strategies for sustainability targets (Molokova, 2021; Lopes et al., 2024).

Taken together, the Rwanda-Burundi-DRC evidence suggests that SDG integration is most durable when governance mechanisms, faculty support, and external partnerships are mutually reinforcing. Somalia provides a contrasting case where protracted fragility makes sequencing and conflict-sensitive approaches central to feasibility.

Somalia: the higher education landscape in Somalia has evolved significantly over the past few years, yet it remains beset by numerous challenges within the framework of the Sustainable Development Goals (SDGs). Noteworthy achievements include the establishment and expansion of higher education institutions (HEIs), which have improved educational access across various regions; these institutions are increasingly aligning their curricula with national priorities and international standards, particularly in areas relevant to the SDGs (Abdulle et al., 2023). Programs aimed at fostering critical thinking and equipping students with relevant skills for the job market address vital societal needs such as healthcare, engineering, and education reform (Mohamoud, 2023). Furthermore, there have been increased efforts to promote gender equity, with initiatives targeting barriers to female education thereby enhancing women's access and future contributions to social and economic development (Nur & Barigayomwe, 2024; Yusuf et al., 2023). In light of Somalia's complex political landscape, many HEIs have integrated peace education into their curricula, recognizing education's critical role in conflict prevention and nation-building (Mohamed, 2024). However, significant challenges persist, including infrastructural limitations where many institutions operate with inadequate facilities and limited access to technology, hindering the delivery of quality education (Mohamoud, 2023; Abdullahi, 2023). While strides have been made toward gender inclusivity, there are barriers to achieving gender equality goals (Nur & Barigayomwe, 2024; Yusuf et al., 2023).

Somalia's experience underscores the importance of conflict-sensitive curriculum choices and basic infrastructure readiness. The South Sudan case further illustrates how ongoing insecurity and gender disparities shape what is feasible and what must be prioritized in early stages of SDG integration.

South Sudan: the higher education landscape in South Sudan reflects a complex interplay of achievements, progress, and challenges critical to the country's development, particularly in relation to the Sustainable Development Goals (SDGs). Notable advancements include the introduction of in-service teacher training programs aimed at improving the quality of education, addressing a significant shortage of qualified educators, with 60% lacking formal training as of 2011 (Wawa, 2024). Collaborative online international learning projects with U.S. institutions have fostered cultural exchange and skill development among South Sudanese educators (Bloomquist et al., 2022). Initiatives focusing on women's health and education, particularly in midwifery, aim to inspire more women to pursue higher education, thus contributing to gender equality (SDG 5) (Perera et al., 2023). However, significant barriers persist, including profound gender disparities, with only 10.9% of women completing upper secondary school (Perera et al., 2023). Cultural norms often prioritize male education and promote practices like early marriage, further restricting women's access (Perera et al., 2023). The ongoing conflict exacerbates these issues, disrupting learning and limiting educational opportunities (Mayai, 2022). Additionally, weak educational infrastructure, including inadequate facilities and trained educators, contributes to high dropout rates and low enrollment compared to other sub-Saharan nations (Aleu, 2024). To harness higher education as a catalyst for development, South Sudan must enhance community engagement, invest in teacher training and infrastructure, enforce gender equity policies, and build partnerships with international educational organizations to improve educational quality (Bloomquist et al., 2022; Perera et al., 2023; Mayai, 2022).

Interpreting these cases comparatively also requires distinguishing 'post-conflict' trajectories. For the purposes of this synthesis, Rwanda reflects a more stabilized recovery pathway, Burundi and the DRC represent transitional systems with persistent institutional constraints, while Somalia and South Sudan remain characterized by active or protracted fragility. This differentiation matters for sequencing: in high-fragility contexts, minimum-viable steps (governance focal points, core curriculum integration, and targeted partnerships) may be realistic first moves, whereas more stabilized systems can pursue broader whole-institution reforms and more formal benchmarking.

3. Theoretical Frameworks and Models

The framework explains SDG integration as a linked sequence of adoption, internalization, resourcing and institutionalization. Each component addresses a different mechanism, while the post-conflict lens modifies what can be attempted, how quickly it can proceed and what safeguards are required.

Organizational adoption: Institutional Theory

Institutional Theory explains why HEIs adopt SDG commitments in response to coercive pressures from government and donors, mimetic pressures to follow visible peers, and normative pressures from professional networks (Birtles, 2024;

Fauzi et al., 2024; Peña et al., 2024). In fragile settings, these pressures may create useful legitimacy and organizational space for reform, but they can also encourage symbolic compliance. The theory therefore clarifies the adoption stage and the need to connect formal commitments to locally verifiable priorities, responsibilities and outcomes.

Pedagogical internalization: Transformative Learning Theory

Transformative Learning Theory explains how formal commitments become changes in student and faculty understanding. Critical reflection, experiential learning and dialogue can challenge established assumptions and build action competence for sustainability (Giambo & Garrido, 2024; Biely & Chakori, 2024; Swärdh et al., 2024; Romano et al., 2024). In post-conflict HEIs, this process must be conflict-sensitive: locally grounded problems, inclusive facilitation and psychologically safe reflection are more appropriate than imported content that overlooks trauma, identity divisions or uneven access.

Ecosystem resourcing: Stakeholder and Helix Models

Stakeholder Theory and the Triple/Quadruple Helix Models explain how universities mobilize knowledge, legitimacy and resources through collaboration with government, industry, civil society and communities (Awa et al., 2024; Khatter, 2024; Kunwar & Ulak, 2024; Sassi & Mshenga, 2024). Partnerships are especially important where public financing and institutional capacity are limited. They are not automatically equitable, however; transparent partner selection, clear decision rights and community participation are needed to prevent donor fragmentation or capture by powerful actors.

Institutional embedding: Whole-Institution Approach

The Whole-Institution Approach (WIA) explains how SDG practices endure when governance, curricula, research, operations and community engagement reinforce one another (García et al., 2024; Cembranel et al., 2024; Akintolu & Adewoye, 2024; Chapungu & Nhamo, 2024). WIA is an organizing principle rather than a requirement to fund every activity at once. Severely constrained HEIs can begin with a minimum viable package - a focal point, a baseline, selected curriculum changes and one or two partnerships - and expand only as evidence, staff time and recurrent financing permit.

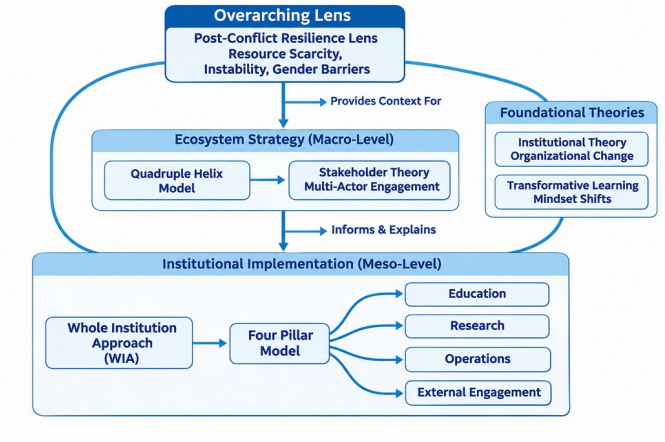


Figure 1. Theoretical frameworks and models

Integrated change logic and theoretical tension

The sequence is cumulative but not strictly linear. Institutional pressures can prompt adoption; transformative learning makes commitments meaningful; stakeholder and Helix relationships supply resources and contextual knowledge; and WIA embeds successful practices across university functions. Feedback can also move in the opposite direction: evidence from teaching, operations and community work can reshape policy and partnerships. Across all stages, insecurity, social fragmentation, legitimacy deficits and uneven capacity determine feasible pacing and increase the need for trust-building and do-no-harm safeguards.

A central tension remains between conformity and critical reflection. Regulation, donor conditions and rankings can accelerate action, yet excessive reliance on them may displace local priorities and produce 'SDG-washing.' Transformative learning and representative stakeholder engagement counter this risk by testing whether actions are locally relevant and substantively experienced. The integrated framework therefore treats external pressure as an entry point, not as evidence of impact; implementation is credible only when commitments are resourced, locally validated and linked to observable outputs and outcomes.

4. Methodology

This paper uses a structured narrative and conceptual review design to synthesize how Sustainable Development Goals (SDGs) are integrated into Higher Education Institutions (HEIs) in post-conflict East Africa. A narrative approach is appropriate because empirical evidence is fragmented across countries and disciplines, while conceptual analysis enables the integration of multi-level theories into a single explanatory framework.

Search strategy: We searched Google Scholar and selected discipline-relevant indexes and publisher platforms (education, sustainability, and higher education outlets). Core search terms combined SDG concepts with higher education and post-conflict descriptors (e.g., "Sustainable Development Goals" AND "higher education" AND ("post-conflict" OR "fragile state") AND ("East Africa" OR "Somalia" OR "Rwanda" OR "Burundi" OR "DRC" OR "South Sudan")). The search focused on 2014-2024 to capture contemporary SDG-era scholarship and implementation debates.

Eligibility criteria: Sources were included if they (i) addressed SDG integration or sustainability integration in HEIs, (ii) provided evidence or analysis relevant to post-conflict/fragile contexts, and (iii) were published in English in peer-reviewed outlets or credible policy/technical reports. Sources were excluded if they did not substantively address higher education or were published prior to 2014.

Corpus and analysis: The final corpus comprised 103 distinct sources cited in the reference list. We extracted information on country context, SDG integration domain (curriculum, research, operations, outreach/governance), constraints, and recommended strategies. Thematic analysis was conducted in two stages: (1) deductive coding aligned to the four pillars (Education, Research, Operations, External Leadership) and the integrated theoretical components; and (2) inductive coding to capture context-specific post-conflict mechanisms (e.g., legitimacy pressures, insecurity constraints, equity barriers). Themes were iteratively refined and then mapped into the multi-level framework and the actionable strategy matrix (Table 1).

5. Findings and Discussion

Synthesizing the reviewed evidence, the study finds that Higher Education Institutions (HEIs) in post-conflict East Africa can be important SDG actors, but their effectiveness depends on aligning institutional constraints with multi-level strategies. Across the final corpus (103 distinct sources, 2014-2024), recurring themes include constrained financing and infrastructure, uneven staff capacity, persistent gender inequities, and volatility in governance and security conditions. Building on the "third mission" framing introduced in the Literature Review, SDG engagement is operationalized here through a four-pillar model (Education, Research, Operations, and External Leadership). Accordingly, the paper argues that effective SDG integration requires: micro-level change processes (Institutional Theory and Transformative Learning Theory), macro-level ecosystem coordination (Stakeholder and Helix Models), and meso-level institutional embedding across university functions (Whole-Institution Approach). These themes are mapped to actionable strategies in Table 1 to make the pathway from synthesis to recommendations explicit.

Table 1. A resource-sensitive strategic framework for integrating SDGs in higher education institutions in post-conflict East Africa

Theoretical component	Priority institutional actions	Feasibility, sequencing and safeguards
Institutional Theory *Adoption and legitimacy*	Align the institutional plan with national SDG priorities and the 2030 Agenda. Use an existing senior committee or a small SDG steering group to assign priorities, indicators and responsible units. Develop a concise sustainability policy. Use regional peer learning and benchmarking after a reliable baseline is established.	Start with a focal point, a curriculum/operations map and three to five measurable indicators. Formalize structures and external rankings only when staff and data capacity permit. Require conflict-of-interest declarations, published selection criteria, recorded decisions and an annual internal review.
Transformative Learning Theory *Internalization through learning*	Integrate locally relevant SDG learning outcomes into selected core courses. Use challenge-based and community-based learning, reflective assessment and cross-disciplinary teaching. Build faculty capacity through a training-of-trainers model and recognize effective course redesign.	Pilot in one or two courses using existing community sites and open educational resources, evaluate learning and community benefit, then scale. Obtain student and community feedback and avoid adding unfunded content without workload adjustment.

Theoretical component	Priority institutional actions	Feasibility, sequencing and safeguards
Stakeholder and Helix Models *Ecosystem resourcing*	Map government, industry, civil-society and community partners. Establish problem-focused memoranda of understanding, advisory boards, extension services or living labs that pool expertise and resources around locally defined priorities.	Begin with one partnership linked to a high-priority local problem. Each agreement should identify contributions, decision rights, data ownership, maintenance costs and an exit or continuation plan. Use transparent partner selection and diversify funding to reduce donor dependence.
Whole-Institution Approach *Institutionalization*	Connect governance, teaching, research, campus operations and outreach. Conduct simple energy, water, waste, accessibility and inclusion baselines; implement high-return conservation and procurement measures; and support student-led initiatives.	Implement no- and low-cost measures first. Subject capital projects to cost-benefit, maintenance and security assessments. Create a recurrent budget line before expansion. Report activities, outputs and outcomes separately and retain evidence for each indicator.
Post-conflict lens *Resilience and do-no-harm*	Embed peace education, conflict resolution, ethics, social inclusion and context-sensitive research across the four components. Promote representative participation and position the university as a neutral evidence resource for public policy.	Apply conflict analysis and do-no-harm review to programs, procurement and partnerships. Use representation rules, a confidential grievance channel, transparent beneficiary criteria and flexible security contingencies. Sequence ambitions to the institution's recovery stage.

Table 1 converts the integrated theory into an implementation pathway rather than a one-size-fits-all checklist. Institutional Theory explains the adoption and governance actions; Transformative Learning Theory guides curriculum and faculty change; Stakeholder and Helix Models support resource mobilization and co-production; and WIA connects these activities across university functions. The post-conflict lens cuts across every row by adjusting sequence, representation and accountability. In high-fragility settings, the minimum viable actions in the third column should precede rankings, capital-intensive campus projects or large innovation hubs. More stabilized institutions can scale these measures after confirming staff capacity, recurrent funding and credible monitoring.

Policy & Governance Alignment

To ensure that HEIs effectively contribute to the SDGs, it is crucial to revise institutional strategic plans to explicitly align with national SDG priorities and the 2030 Agenda (Wajid, 2025; Škokić et al., 2025). The establishment of a high-level SDG Steering Committee with representation from all faculties and students is vital to foster inclusivity and facilitate varied perspectives in decision-making (Göçoğlu, 2024). Additionally, developing a dedicated Sustainability Policy provides a clear framework for integrating sustainability into all institutional operations, reinforcing commitment at all levels (Valdez et al., 2024; Poza et al., 2021).

Structural Isomorphism & Benchmarking

Strategically partnering with regional leading HEIs that have successfully integrated SDGs can serve as a mentorship model and encourage benchmarking practices (Wajid, 2025; Velankar et al., 2025). Participation in recognized SDG-focused rankings such as the Times Higher Education Impact Rankings is essential as it provides critical feedback which can guide ongoing improvements and strategic adjustments (Velankar et al., 2025; Bautista Puig et al., 2022). Moreover, adopting internationally recognized standards for sustainability reporting like the GRI Standards enhances transparency and accountability, facilitating more effective benchmarking against global peers (Velankar et al., 2025; Velázquez, 2025).

Curriculum & Pedagogy Reform

Curriculum reform is vital to embedding SDG principles across all educational offerings. Mandating the integration of SDG-related topics into core courses ensures that students engage critically with relevant global challenges (Wajid, 2025; Fındık & Erçetin, 2023). Promoting Challenge-Based Learning (CBL) and community projects can also enhance experiential learning, encouraging students to apply their knowledge to resolve local issues (Koseda et al., 2025; Fındık & Erçetin, 2023). Furthermore, incorporating cross-cultural exchanges enriches the educational experience and fosters reflective practices, all contributing to a comprehensive education aligned with the SDGs (Din et al., 2021; Velázquez, 2025).

Faculty Development

Continuous professional development for faculty is essential to teach innovative pedagogies effectively. Regular workshops focused on transformative pedagogies can equip educators with the skills needed to teach SDG-focused courses effectively (Fındık & Erçetin, 2023; Bautista Puig et al., 2022). Establishing incentives, such as grants or awards for faculty who develop and teach such courses, will drive further engagement with sustainable education (Valdez et al., 2024; Abowardah et al., 2024).

Multi-Stakeholder Partnerships (Quadruple Helix)

Creating formal innovation hubs or living labs brings together stakeholders from academia, industry, government, and community to collaboratively develop solutions (Fidiana, 2025; Dantic, 2024). Such partnerships should be formalized through Industry Advisory Boards that align curricular objectives with labor market needs and SDG challenges, ensuring educational offerings remain relevant and impactful (Wajid, 2025; Poza et al., 2021). Furthermore, partnering with local NGOs enhances community engagement and ensures that educational institutions contribute to meaningful local development (Velázquez, 2025; Abowardah et al., 2024).

Community Engagement & Knowledge Transfer

To promote broader societal impact, HEIs should launch public lecture series and "SDG Open Days" to share research findings with the community (Bautista Puig et al., 2022). Developing extension services in sectors like agriculture and health can also directly address community needs while enhancing university-community relations (Din et al., 2021; Abowardah et al., 2024).

Sustainable Campus Operations

Conducting comprehensive audits of campus operations is necessary for identifying areas for sustainability improvements, including energy conservation and waste management (Vivek, 2022; Rivas et al., 2025). Implementing sustainable procurement policies can ensure that institutional purchases support local and eco-friendly industries, thereby enhancing sustainability (Velankar et al., 2025; Bautista Puig et al., 2022). Furthermore, designing campus infrastructure to be accessible and gender-sensitive reflects a commitment to inclusivity and equity in educational settings (Bada et al., 2024; Abowardah et al., 2024).

Organizational Culture & Student Life

Supporting student-led sustainability initiatives is essential for fostering a culture of sustainability at universities (Fidiana, 2025; Velázquez, 2025). Integrating sustainability principles into student codes of conduct and orientations reinforces institutional values and encourages student involvement (Bautista Puig et al., 2022; Velankar et al., 2025). Promoting gender equity and social inclusion through scholarships and support programs is also critical to ensure diversity in educational environments (Bada et al., 2024; Abowardah et al., 2024).

Peacebuilding & Social Cohesion

Integrating peace education into curricula across disciplines can help cultivate a generation capable of addressing complex societal challenges (Škokić et al., 2025). Furthermore, institutions should focus on designing research programs that examine the root causes of conflict, facilitating pathways toward reconciliation (Fidiana, 2025; Bada et al., 2024).

Capacity Building for State Legitimacy

Offering professional development opportunities for public servants enhances state legitimacy and strengthens institutional cooperation with local governments (Škokić et al., 2025). Positioning the university as a neutral, evidence-based resource supports informed public policy formulation, aiding in sustainable governance practices (Velázquez, 2025; Abowardah et al., 2024).

Feasibility and phased implementation in severely resource-constrained HEIs

The recommendations should be treated as a sequenced menu, not as an unfunded mandate. During the first 0-12 months, an HEI can use existing governance structures to appoint an SDG focal point, map current curriculum and operations, select one or two locally urgent SDG priorities, establish a small indicator baseline and pilot changes in one or two courses. These measures require mainly staff coordination rather than new infrastructure. Where institutions face active insecurity, implementation should focus on continuity, inclusion, peace education and partnerships that protect essential teaching and community services.

During months 12-36, institutions with sufficient stability can evaluate pilots, use training-of-trainers to expand faculty capacity, formalize one or two problem-focused partnerships and invest in low-cost operational improvements selected through cost and impact screening. Institution-wide scaling, external rankings, living labs and capital-intensive energy or water projects should follow only when the HEI has reliable data, a recurrent budget line, maintenance capacity and a security plan. This staged approach differentiates active or protracted fragility (for example, Somalia and South Sudan) from transitional or more stabilized recovery pathways, while allowing institutions to move between stages as conditions change.

Political-economy risks and concrete mitigation mechanisms

Four governance controls strengthen implementation. First, to limit elite capture, steering bodies should include faculty, students and relevant community voices; members should disclose conflicts of interest; and beneficiary, grant and procurement criteria should be published. Second, to reduce donor fragmentation, every externally funded activity should map to one institution-owned SDG plan and budget, specify decision rights and data ownership, and include an exit, handover or maintenance plan. Third, to deter SDG-washing, a compact indicator register should distinguish activities, outputs and outcomes, assign an evidence owner and baseline to each measure, and be validated through cross-faculty or community review before public reporting. Fourth, to reduce politicization and conflict harm, projects should undergo a context and do-no-harm review, apply transparent representation rules and provide a confidential grievance channel. These controls make accountability proportionate and practical rather than reporting-heavy (Poza et al., 2021; Bautista Puig et al., 2022; Velankar et al., 2025).

6. Conclusion

Higher education institutions in post-conflict East Africa can contribute to the SDGs through teaching, research, institutional operations, public engagement and peacebuilding, but their contribution is constrained by underfunding, fragile infrastructure, social inequity and volatile governance. The evidence therefore supports movement away from isolated projects toward a connected and context-sensitive strategy.

The integrated framework clarifies how this strategy works: Institutional Theory explains adoption, Transformative Learning Theory supports meaningful change in learning, Stakeholder and Helix Models enable collaboration and resourcing, and WIA embeds viable practices across university functions. The post-conflict lens modifies every component by requiring realistic sequencing, representative participation, trust-building and do-no-harm safeguards.

Credible implementation begins with a minimum viable package and expands as evidence, capacity and recurrent financing grow. Transparent governance, institution-owned coordination, verifiable indicators and conflict-sensitive review reduce the risks of elite capture, fragmented short-term projects and SDG-washing. Under these conditions, HEIs can strengthen resilience, social cohesion and evidence-based recovery without allowing reporting ambition to exceed operational capacity.

7. Recommendations

Adopt a phased Whole-Institution Approach. Begin with a focal point, a rapid baseline and a small set of locally relevant priorities. Use existing committees where possible. Pilot before scaling, and approve high-cost projects only after confirming financing, maintenance and security arrangements.

Connect curriculum reform to faculty capacity. Integrate SDG learning outcomes into selected core courses, use challenge-based and community-based projects, and expand through a training-of-trainers model. Faculty incentives should reward evaluated learning and community benefit, not course labels alone.

Build accountable partnerships. Develop problem-focused partnerships with government, industry, civil society and communities. Each agreement should specify contributions, decision rights, data ownership, beneficiary selection, conflict-of-interest requirements and an exit or continuation plan.

Prioritize measurable operational improvements. Conduct simple energy, water, waste, accessibility and inclusion baselines. Implement low-cost conservation and procurement improvements first; subject infrastructure investments to cost-benefit and maintenance review.

Embed peacebuilding, inclusion and do-no-harm safeguards. Integrate peace education, conflict resolution and ethics across disciplines; promote representative participation; conduct conflict analysis for major initiatives; and maintain a confidential grievance channel.

Report for learning and accountability. Publish a concise annual SDG impact report for university leadership, policymakers, partners and communities. Separate activities, outputs and outcomes; disclose limitations; and validate material claims through cross-faculty or community review.

References

Abdalla, S., Ramadan, E., Al-Belushi, M., & Al-Hooti, N. (2024). Unveiling the role of arab universities in advancing sustainable development goals: a multi-dimensional analysis. Sustainability, 16(14), 5829. https://doi.org/10.3390/su16145829

Abdullahi, A. (2023). The challenges of advancing inclusive education: the case of somalia's higher education. Journal of Law and Sustainable Development, 11(2), e422. https://doi.org/10.55908/sdgs.v11i2.422

Abdulle, M., Kulmie, D., & Hussein, M. (2023). Improving job performance through budget participation: case of higher education institutions. Journal of Entrepreneurship and Business Innovation, 10(2), 38. https://doi.org/10.5296/jebi.v10i2.21416

Abowardah, E., Labib, W., Aboelnagah, H., & Nurunnabi, M. (2024). Students' perception of sustainable development in higher education in saudi arabia. Sustainability, 16(4), 1483. https://doi.org/10.3390/su16041483

African Union. (2016). Continental Education Strategy for Africa 2016-2025 (CESA 16-25). African Union Commission. https://ecosocc.au.int/sites/default/files/files/2021-09/continental-strategy-education-africa-english.pdf

African Union. (2024). Continental Education Strategy for Africa 2026-2035 (CESA 26-35). African Union Commission. https://au.int/sites/default/files/documents/44940-doc-AU_CESA-2026-2035_Strategy_ENGLISH.pdf

Akçay, K., Altınay, F., Altınay, Z., Dağlı, G., Shadiev, R., Altınay, M.,... & Okur, Z. (2023). Global citizenship for the students of higher education in the realization of sustainable development goals. https://doi.org/10.20944/preprints202310.0748.v1

Akintolu, M. & Adewoye, S. (2024). Systematic review of the role of open and distance education in achieving the sustainable development goals (sdgs). International Journal of Learning Teaching and Educational Research, 23(12), 113-129. https://doi.org/10.26803/ijlter.23.12.7

Aleu, A. (2024). Role of the community in influencing enrolment of children in schools in juba county, south sudan. East African Journal of Arts and Social Sciences, 7(1), 19-25. https://doi.org/10.37284/eajass.7.1.1691

Alfathy, R., Saputro, S., & Ramli, M. (2024). Implementation of sustainable development goals in higher education modalities: literature review. Journal of Turkish Science Education, 21(1), 22-43. https://doi.org/10.36681/tused.2024.002

Ambariyanto, A. & Utama, Y. (2020). Educating higher education institutions to support sdgs: indonesian case. E3s Web of Conferences, 202, 02015. https://doi.org/10.1051/e3sconf/202020202015

An, S. (2024). The urgent call for academic action: rebooting sdgs to reset our future. IGEE Proc, 1(1), 20-31. https://doi.org/10.69841/igee.2024.003

Ariawan, A., Judijanto, L., Bahtiar, M., Akbarina, F., & Syafri, M. (2024). The role of sharia economics in supporting the realization of sustainable development goals and islamic development. Probisnis Jurnal Manajemen, 15(1), 87-91. https://doi.org/10.62398/probis.v15i1.412

Athanase, I. (2024). Assessing the impact of education on life expectancy in rwanda. International Journal of Economics, 9(2), 65-73. https://doi.org/10.47604/ijecon.2555

Awa, H., Etim, W., & Ogbonda, E. (2024). Stakeholders, stakeholder theory and corporate social responsibility (csr). International Journal of Corporate Social Responsibility, 9(1). https://doi.org/10.1186/s40991-024-00094-y

Bada, G., Adedayo, O., & Olufemi, O. (2024). Fostering educational equity through leadership and policy innovations for sustainable development in higher education. International Journal of Frontline Research in Multidisciplinary Studies, 4(1), 035-044. https://doi.org/10.56355/ijfrms.2024.4.1.0031

Baskara, F. (2024). Generative ai as an enabler of sustainable education: theoretical perspectives and future directions. British Journal of Teacher Education and Pedagogy, 3(3), 122-134. https://doi.org/10.32996/bjtep.2024.3.3.9

Bautista Puig, N., Orduña Malea, E., & Esparrells, C. (2022). Enhancing sustainable development goals or promoting universities? an analysis of the times higher education impact rankings. International Journal of Sustainability in Higher Education, 23(8), 211-231. https://doi.org/10.1108/ijshe-07-2021-0309

Biely, K. & Chakori, S. (2024). Sustainability transition theories: perpetuating or breaking with the status quo. Sustainable Development, 33(1), 52-68. https://doi.org/10.1002/sd.3101

Birtles, M. (2024). World-class education for the few: analysing japan's designated national university corporation system policy discourse. Policy Futures in Education, 23(3), 582-603. https://doi.org/10.1177/14782103241287276

Bloomquist, C., Hobson, C., Ayaga, J., Trott, C., Suiter, S., & Freeman, A. (2022). Facilitated coil conversational model: a virtual exchange between a private university in the us and a teacher college in south sudan. Journal of Virtual Exchange, 5, 82-93. https://doi.org/10.21827/jve.5.38668

Calero, M., Piña, T., García-Berlanga, O., Doménech, J., Ull, M., & Vilches, A. (2024). A study about pre-service teachers' knowledge of the sustainable development goals. International Journal of Sustainability in Higher Education, 26(2), 352-371. https://doi.org/10.1108/ijshe-07-2023-0284

Carlson, E., Chan, E., Kumlien, C., Leung, D., & Bish, M. (2024). Perspective transformation of cultural awareness: a qualitative study on research students' experiences of international cross-institutional webinars. Journal of Transformative Education, 23(1), 119-135. https://doi.org/10.1177/15413446241263772

Castro, M. & Zermeño, M. (2020). Challenge based learning: innovative pedagogy for sustainability through e-learning in higher education. Sustainability, 12(10), 4063. https://doi.org/10.3390/su12104063

Cembranel, P., Gewehr, L., Moro, L., Fuchs, P., Birch, R., & Guerra, J. (2024). The pivotal role of higher education institutions in cultivating a sustainable development goals-centric culture. International Journal of Sustainability in Higher Education, 25(7), 1385-1411. https://doi.org/10.1108/ijshe-01-2024-0057

Chapungu, L. & Nhamo, G. (2024). Academia's engagement with sustainable development goals: status quo and barriers at great zimbabwe university. International Journal of Sustainability in Higher Education, 25(9), 234-254. https://doi.org/10.1108/ijshe-07-2023-0329

Chen, L., Chen, H., & Zeng, K. (2024). Comparison of two models of distance education for lifelong learning in china. Sustainability, 16(2), 669. https://doi.org/10.3390/su16020669

Cheng, C., Cheng, S., & Feng, C. (2024). The triple helix model for industry-education city integration in china: a development approach. Sage Open, 14(2). https://doi.org/10.1177/21582440241250111

Cheng, P., Zhang, J., Chen, J., Zheng, Y., & Li, Z. (2024). Stakeholder attention and ambidextrous green innovation: evidence from china. Business Strategy and the Environment, 34(1), 1007-1026. https://doi.org/10.1002/bse.4032

Chung, F., Chung, H., & Lin, S. (2024). Current themes and future directions of the sustainable development goals in higher education. International Journal of Sustainability in Higher Education, 25(8), 1980-1994. https://doi.org/10.1108/ijshe-07-2023-0308

Dantas, A. & Almeida, A. (2024). The diffusion of racial validation panels in public universities -institutions and organizational change. Dados, 67(4). https://doi.org/10.1590/dados.2024.68.2.347x

Dantic, M. (2024). The intersection of internationalization and sustainable development goals in higher education., 307-340. https://doi.org/10.4018/979-8-3693-6849-7.ch012

Din, M., Omar, W., Taib, S., Sarip, S., & Krishnan, S. (2021). Humanizing the localizing sustainable development goals (sdgs) in education and research at higher education institutions (heis). Journal of Sustainability Perspectives, 1. https://doi.org/10.14710/jsp.2021.12039

Din, N. (2024). Revolutionizing higher education: integrating global dynamics through sdg 3 and sdg 4 in higher education institutions. Eduphoria, 02(03), 31-34. https://doi.org/10.59231/eduphoria/230411

Ding, R. & You, Z. (2022). Education partnership assistance to promote the balanced and sustainable development of higher education: lessons from china. Sustainability, 14(14), 8366. https://doi.org/10.3390/su14148366

ElMassah, S., Biltagy, M., & Gamal, D. (2021). Framing the role of higher education in sustainable development: a case study analysis. International Journal of Sustainability in Higher Education, 23(2), 320-355. https://doi.org/10.1108/ijshe-05-2020-0164

Fauzi, S., Ali, M., & Ghani, E. (2024). The forces of revenue recognition standard changes in a telecommunication company: a qualitative approach. Journal of Ecohumanism, 3(3), 1-15. https://doi.org/10.62754/joe.v3i3.3261

Ferguson, T. & Roofe, C. (2020). Sdg 4 in higher education: challenges and opportunities. International Journal of Sustainability in Higher Education, 21(5), 959-975. https://doi.org/10.1108/ijshe-12-2019-0353

Fidiana, F. (2025). Contextual role of woman board on sustainability practice: evidence from indonesian university. AREBUS, 6(1), 55-71. https://doi.org/10.52919/arebus.v6i01.73

Fındık, L. & Erçetin, Ş. (2023). How do universities in türkiye integrate sustainable development goals into their strategies? Sustainability, 15(24), 16799. https://doi.org/10.3390/su152416799

Gál, K. & Pásztor, R. (2024). The regional embeddedness of a minority university: social networks and economic relations. Erdélyi Társadalom, 22(2), 53-75. https://doi.org/10.17177/77171.296

Galán, J., Lázaro-Pérez, C., López, J., & Menéses, E. (2020). Measurement of the mooc phenomenon by pre-service teachers: a descriptive case study. Education Sciences, 10(9), 215. https://doi.org/10.3390/educsci10090215

García, A., Domínguez, M., Taín, M., & Araújo, M. (2024). The broad spectrum of sustainability and the social economy: perspectives from bibliometric data. Journal of the Knowledge Economy, 16(2), 10811-10840. https://doi.org/10.1007/s13132-024-02222-2

Giacomini, D., Rocca, L., & Tonoli, D. (2024). Exploring materiality and stakeholder engagement in european water utilities' sustainability strategies, organizational practices, and reporting. Business Strategy and the Environment, 34(2), 2607-2629. https://doi.org/10.1002/bse.4109

Giambo, D. & Garrido, L. (2024). Cross-cultural course and service-learning study-away: a means to transformative learning. Journal of Transformative Education, 23(1), 98-118. https://doi.org/10.1177/15413446241261970

Githui, F. & Njuru, J. (2024). The role of public management in the achievement of sustainable development goals. International Journal of Science and Business, 31(1), 64-75. https://doi.org/10.58970/ijsb.2276

Göçoğlu, V. (2024). Strategic intentions of higher education for sustainable development goals: qualitative evidence from universities in türkiye. Sustainable Development, 33(1), 1575-1587. https://doi.org/10.1002/sd.3186

Intergovernmental Authority on Development (IGAD). (2020). IGAD Regional Education Policy Framework. IGAD Secretariat. https://igad.int/wp-content/uploads/2021/07/IGAD-Regional-Education-Policy-Framework-2020.pdf

Khatter, A. (2024). Strategic management and stakeholder engagement: a case for environmental sustainability. https://doi.org/10.5772/intechopen.112065

Kioupi, V. & Voulvoulis, N. (2020). Sustainable development goals (sdgs): assessing the contribution of higher education programmes. Sustainability, 12(17), 6701. https://doi.org/10.3390/su12176701

Koseda, E., Demirhan, N., & McIntosh, B. (2025). From goals to action: a targeted framework for sustainable development goals in higher education.. https://doi.org/10.5772/intechopen.1010565

Kunwar, R. & Ulak, N. (2024). Extension of the triple helix to quadruple to quintuple helix model. Journal of Apf Command and Staff College, 7(1), 241-280. https://doi.org/10.3126/japfcsc.v7i1.67006

Li, W., Li, C., Wang, X., Bai, R., Yang, R., Chen, D.,... & Zhang, Z. (2024). Research on sustainable university construction. https://doi.org/10.4108/eai.23-2-2024.2345946

Lopes, M., Matias-Correia, R., Silva, R., Machado, N., & França, A. (2024). Sustainability in higher education: experience report on achieving sustainable development goals. Revista Brasileira De Enfermagem, 77(suppl 2). https://doi.org/10.1590/0034-7167-2024-0118

Marotta, J. (2024). Transformative learning and professional advancement during an edd program. Impacting Education Journal on Transforming Professional Practice, 9(1), 3-11. https://doi.org/10.5195/ie.2024.402

Masina, R. (2024). Integration of sustainable development goals in the textile science, apparel design, and technology programs in zimbabwean universities. Journal of Adult and Continuing Education, 31(1), 265-284. https://doi.org/10.1177/14779714241264972

Mayai, A. (2022). War and schooling in south sudan, 2013-2016. Journal on Education in Emergencies, 8(1), 14. https://doi.org/10.33682/q16e-7ckp

Mohamed. (2024). Peace education and conflict prevention in Somalia. https://doi.org/10.59336/vr58vq21

Mohamoud. (2023). The role of leadership on quality of higher education in the Banadir Region, Somalia.

Molina, Á., Helldén, D., Alfvén, T., Niemi, M., Leander, K., Nordenstedt, H.,... & Biermann, O. (2023). Integrating the united nations sustainable development goals into higher education globally: a scoping review. Global Health Action, 16(1). https://doi.org/10.1080/16549716.2023.2190649

Molokova, E. (2021). Higher education as a sustainable development tool. E3s Web of Conferences, 291, 05040. https://doi.org/10.1051/e3sconf/202129105040

Mpia, H., Mwendia, S., & Mburu, L. (2022). Predicting employability of congolese information technology graduates using contextual factors: towards sustainable employability. Sustainability, 14(20), 13001. https://doi.org/10.3390/su142013001

Mpia, H., Waruguru, M., & Nyaga, M. (2023). Exploratory factor analysis of congolese information technology graduates' employability: towards sustainable employment. Sage Open, 13(4). https://doi.org/10.1177/21582440231210109

Nhamo, G. (2021). Localisation of sdgs in higher education: unisa's whole institution, all goals and entire sector approach. Southern African Journal of Environmental Education, 37. https://doi.org/10.4314/sajee.v37i1.5

Nhamo, G. & Chapungu, L. (2024). Seven years of embracing the sustainable development goals: perspectives from university of south africa's academic staff. Frontiers in Education, 9. https://doi.org/10.3389/feduc.2024.1354916

Niemelä, T. (2024). Sdgs in master's theses: a study of a finnish university of applied sciences. International Journal of Sustainability in Higher Education, 25(9), 137-154. https://doi.org/10.1108/ijshe-05-2023-0211

Nordén, B. (2024). Advancing sustainability through higher education: student teachers integrate inner development goals (idg) and future-oriented methodologies. Challenges, 15(2), 28. https://doi.org/10.3390/challe15020028

Nur & Barigayomwe. (2024). Traditional practices and education rights: A case of university female students in Hodon District, Somalia. East African Journal of Traditions, Culture and Religion. https://doi.org/10.37284/eajtcr.7.1.1813

Nyika, F. (2024). Challenges of incorporating sustainable development goals into south african higher education curricula. Indonesian Journal of Education and Social Sciences, 3(2), 192-200. https://doi.org/10.56916/ijess.v3i2.749

Pactwa, K., Woźniak, J., Jach, K., & Brdulak, A. (2024). Including the social responsibility of universities and sustainable development goals in the strategic plans of universities in europe. Sustainable Development, 32(5), 4593-4605. https://doi.org/10.1002/sd.2924

Peña, F., Martínez-Martínez, D., & Jorge, M. (2024). Sustainability reporting, institutional pressures and universities: evidence from the spanish setting. Sustainability Accounting Management and Policy Journal, 16(4), 1045-1071. https://doi.org/10.1108/sampj-07-2023-0455

Perera, S., Isa, G., Sebushishe, A., Sundararaj, P., Piccirillo, M., Xia, S.,... & Casey, S. (2023). "midwives are heroes of the country": qualitative evaluation of a midwifery education program in south sudan. Frontiers in Global Women S Health, 4. https://doi.org/10.3389/fgwh.2023.1215405

Popelo, O., Холявко, Н., Hryhorkiv, M., Kosmii, O., Олексієнко, О., & Жаворонок, А. (2023). Eu higher education institution toward the sustainable development. Management Theory and Studies for Rural Business and Infrastructure Development, 46(2), 124-132. https://doi.org/10.15544/mts.2023.13

Poza, E., Merello, P., Barberá, A., & Celani, A. (2021). Universities' reporting on sdgs: using the impact rankings to model and measure their contribution to sustainability. Sustainability, 13(4), 2038. https://doi.org/10.3390/su13042038

Puthucherril, T., Sharma, C., Shenoy, A., Sood, S., & Lal, S. (2024). Integrating the sustainable development goals into india's legal education landscape: the what, why and how of a reform paradigm. Asian Journal of Legal Education, 12(1), 40-60. https://doi.org/10.1177/23220058241265614

Quaye, J., Halsall, J., Winful, E., Snowden, M., Opuni, F., Hyams-Ssekasi, D.,... & Fairhurst, B. (2024). Social enterprises and the sustainable development goals (sdgs): a means to an end. Environment Development and Sustainability. https://doi.org/10.1007/s10668-024-05359-x

Rivas, M., Salcines, C., López-Roldán, P., Rosa, S., Martín, D., & Colino, E. (2025). Contribution of universities health and safety services in achieving the sustainable development goals. Frontiers in Public Health, 13. https://doi.org/10.3389/fpubh.2025.1604003

Romano, A., Kramlich, D., Marsick, V., Zakrzewski, T., Anderson-Sathe, L., Brunstein, J.,... & Longmore, A. (2024). Practicing embodied listening for transformation: the transformative listening protocol. Journal of Transformative Education, 23(1), 31-58. https://doi.org/10.1177/15413446241258681

Rudahinyuka, S., Ngenzi, J., Li, H., Kubwarugira, G., Hongjie, X., & Ndihokubwayo, A. (2023). Higher education for sustainable construction: a global overview of nine burundian universities 'commitment.. https://doi.org/10.21203/rs.3.rs-2943428/v1

Saleh, S. & Adly, H. (2024). Measuring the impact of higher education in promoting sustainable development goals: analysis of the arab universities' performance. Problemy Ekorozwoju, 19(1), 261-274. https://doi.org/10.35784/preko.5384

Sassi, M. & Mshenga, P. (2024). Unlocking the potential of university-industry collaborations in african higher education: a comprehensive examination of agricultural faculties. Industry and Higher Education, 39(1), 102-114. https://doi.org/10.1177/09504222241254694

Shesha, A. & Singh, R. (2024). The role of indian academic libraries in advancing and achieving sustainable development goals. lt, 10(1), 29-35. https://doi.org/10.48165/lt.2024.10.5

Sinaga, S. (2024). Financial commitment to a greener future: investigating environmental protection spending and its impact on sustainable development goals. Co-Value Jurnal Ekonomi Koperasi Dan Kewirausahaan, 15(2). https://doi.org/10.59188/covalue.v15i2.4612

Škokić, V., Jelić, P., & Jerković, I. (2025). The role and contribution of sustainable development goals as a transformative framework in higher education: a case study of the university of split. World, 6(1), 22. https://doi.org/10.3390/world6010022

Supaat, K., Aziz, S., Hasan, S., Basri, N., & Shafie, S. (2024). Universities and sustainable development: options to help 'walk the talk'. Journal of Ecohumanism, 3(8). https://doi.org/10.62754/joe.v3i8.4751

Supriyanto, A., Siswanto, S., Suprayitno, E., Ekowati, V., Johari, F., Taqiuddin, M.,... & Hasibuan, L. (2024). Navigating the interplay between sustainable leadership, relational capital, and academic performance in higher education. International Journal of Religion, 5(10), 2009-2019. https://doi.org/10.61707/yrk92z02

Swärdh, E., Brodin, N., Palstam, A., & Pettersson, Å. (2024). High consciousness - low application: sustainable development and sustainable healthcare in undergraduate physiotherapy education in sweden. Frontiers in Public Health, 12. https://doi.org/10.3389/fpubh.2024.1509997

Telesford, L., Nsobundu, C., Lewis, T., Marks, A., Alamrany, A., Zaim, O.,... & Chandran, V. (2024). Leveraging small island context to advance and disseminate environmental health and sustainable development knowledge through higher education. Frontiers in Education, 9. https://doi.org/10.3389/feduc.2024.1337302

Thompson Spain, A., Bunds, K., Larson, L., Cutts, B., & Hipp, J. (2024). Patient capital and no net loss: applying institutional theory to understand publicly owned mitigation banking in an urban context at a united states port. Public Administration, 103(1), 220-249. https://doi.org/10.1111/padm.13010

Tomasella, B., Akbar, B., Lawson, A., Howarth, R., & Bedford, R. (2024). Embedding the sustainable development goals into higher education institutions' marketing curriculum. Journal of Marketing Education, 46(2), 155-174. https://doi.org/10.1177/02734753241231182

Utami, P., Suprapto, N., Hidaayatullaah, H., & Cheng, T. (2024). The comparison of chat gpt, perplexity ai, and scopus database to capture indonesian higher education quality in achieving sdgs 2030. E3s Web of Conferences, 513, 04001. https://doi.org/10.1051/e3sconf/202451304001

Valdez, L., Gutiérrez, L., & Mendiola, G. (2024). Contributions of three mexican higher education institutions to sustainable development: a comparative analysis. Journal of Adult and Continuing Education, 31(1), 74-95. https://doi.org/10.1177/14779714241240987

Valentinov, V. (2024). Advancing a system-level perspective in stakeholder theory: insights from the institutional economics of john r. commons. Social Science Information, 63(4), 443-467. https://doi.org/10.1177/05390184241302724

Velankar, Y., Marreh, S., Badjie, O., Yeboah, G., & Ncube, B. (2025). Best practices in quality education and partnerships to advance the sustainable development agenda in higher education institutions. International Journal of Sustainability in Higher Education. https://doi.org/10.1108/ijshe-02-2024-0145

Velázquez, L. (2025). Higher education institutions as leverage for backing up smes' efforts to meet sdg 9. Sustainability, 17(10), 4665. https://doi.org/10.3390/su17104665

Vivek, R. (2022). Sustainable strategic management for online platforms in higher education: practices and challenges. Malaysian E Commerce Journal, 6(1), 29-35. https://doi.org/10.26480/mecj.01.2022.29.35

Wajid, H. (2025). Evaluating saudi arabian heis: achievements, strategic gaps, and future roadmap for un sdgs through the impact rankings. https://doi.org/10.20944/preprints202501.1316.v1

Wawa, Y. (2024). In-service primary school teacher training programmes in south sudan. International Journal of Social Science and Human Research, 07(03). https://doi.org/10.47191/ijsshr/v7-i03-42

Wilhelm, E., Santos, C., & Pìlatti, L. (2024). Are the best higher education institutions also more sustainable? International Journal of Sustainability in Higher Education, 26(3), 518-539. https://doi.org/10.1108/ijshe-09-2023-0450

Wright, C., Ritter, L., & Gonzales, C. (2022). Cultivating a collaborative culture for ensuring sustainable development goals in higher education: an integrative case study. Sustainability, 14(3), 1273. https://doi.org/10.3390/su14031273

Yatsenko, V. (2024). Architecture of concepts of social responsibility of higher education institutions in the education services market. Management, 37(1), 65-72. https://doi.org/10.30857/2415-3206.2023.1.6

Yemini, M. (2021). Internationalisation by demarcating the role of higher education in sustainable development goals: the case of israel. European Journal of Education, 56(2), 235-247. https://doi.org/10.1111/ejed.12443

Yusuf et al. (2023). Unveiling obstacles: Gender inequality's impact on women's political engagement in the Somali Federal Government. International Journal of Education Humanities and Social Science. https://doi.org/10.54922/ijehss.2023.0565